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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

FILED
EPA REGION VII
HEARD: 1/11/84

IN THE MATTER OF:

RICHARDSON FLAT TAILINGS

United Park City Mines Company
Respondent

Proceeding Under Sections 104, 122(a),
and 122(d)(3) of the Comprehensive
Environmental Response, Compensation,
and Liability Act as amended
(42 U.S.C. Sections 9604, 9622(a),
9622(d)(3)).

U.S. EPA Docket
No. CERCLA-8-2000-19

ADMINISTRATIVE ORDER ON CONSENT
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

I. INTRODUCTION

1. This Administrative Order on Consent ("Consent Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and United Park City Mines Company ("Respondent"). The Consent Order concerns the preparation of, performance of, and reimbursement for all associated costs incurred by EPA in connection with a focused remedial investigation and feasibility study ("RI/FS") for the Richardson Flat Tailings Site (the "Site"), located near Park City, Utah.

II. JURISDICTION

2. This Consent Order is issued under the authority vested in the President of the United States by Sections 104, 122(a) and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. Sections 9604, 9622(a), 9622(d)(3) (CERCLA). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987), and further delegated to the EPA Region 8 Director of the Superfund Remedial Response Program, Office of Ecosystem Protection and Remediation (the "Director") by EPA Delegation No. 14-14-C.

3. The Respondent agrees to undertake all actions required by the terms and conditions of this Consent Order. In any action by



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

FBI HQ
 EPA R-16-173
 HEARD GLENN

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Proceeding Under Sections 104, 122(a),
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U.S. EPA Docket
No. **CERCLA-8-2000-19**

9 601010 3-10-1002

ADMINISTRATIVE ORDER ON CONSENT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

I. INTRODUCTION

SSID 08-94

no past costs per this
order. Still under review
will issue separate order;
future / oversight costs
only

-- ("Consent Order")
Environmental
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at Tailings Site

the authority vested
104, 122(a) and
Conse, Compensation,
9604, 9622(a),
and to the
Executive Order 12580,
in the EPA Region 8
Program, Office of

Ecosystem Protection and Remediation (the "Director") by EPA Delegation No. 14-14-C.

3. The Respondent agrees to undertake all actions required by the terms and conditions of this Consent Order. In any action by

EPA or the United States to enforce the terms of this Consent Order, Respondent consents to and agrees not to contest the authority or jurisdiction of the Director to issue or enforce this Consent Order, and agrees not to contest the validity of this Consent Order or its terms.

III. PARTIES BOUND

4. This Consent Order shall apply to and be binding upon EPA and shall be binding upon Respondent, its agents, successors, assigns, officers, directors and principals. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order. No change in the ownership or corporate status of the Respondent or of the facility or Site shall alter Respondent's responsibilities under this Consent Order.

5. The Respondent shall provide a copy of this Consent Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred. Respondent shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Consent Order, within 14 days after the effective date of this Consent Order or the date of retaining their services, whichever is later. Respondent shall condition any such contracts upon satisfactory compliance with this Consent Order. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Consent Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Consent Order.

IV. STATEMENT OF PURPOSE

6. In entering into this Consent Order, the objectives of EPA and the Respondent are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site or facility, by conducting a focused remedial investigation; (b) to determine and evaluate alternatives for remedial action (if any) to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site or facility, by conducting a focused feasibility study; and (c) to recover RI/FS response and oversight costs incurred by EPA with respect to this Consent Order.

7. The activities conducted under this Consent Order are subject to approval by EPA and shall provide all appropriate necessary information for the RI/FS, with the exception of the focused baseline risk assessment to be performed by EPA, and for a record of decision that is consistent with CERCLA and the National

Contingency Plan ("NCP"), 40 C.F.R. Part 300. The activities conducted under this Consent Order shall be conducted in compliance with all applicable EPA guidances, policies, and procedures.

V. FINDINGS OF FACT

8. The Richardson Flats Site (CERCLIS ID # UTD980952840) is located approximately three and one-half miles northeast of Park City, in Summit County, Utah. The Site is a former mine tailings impoundment and covers approximately 160 acres immediately southeast of the junction of U.S. Highway 40 and Utah Highway 248. The tailings pile is adjacent to Silver Creek, a tributary to the Weber River. Some wetlands are positioned between the tailings pile embankment and Silver Creek.

9. Tailings were first placed at the Site prior to 1950. Tailings disposal continued intermittently through 1982 with several modifications and enlargements of the pile occurring. Since 1982, the Site has been inactive, although the Respondent has taken various actions intended to mitigate any potential impacts on human health and the environment including fencing the Site and covering the tailings pile with clean soil.

10. Sampling conducted by EPA has revealed the presence of heavy metals, including arsenic, cadmium, lead, and zinc, in tailings at the Site, as well as in surface water within the south diversion ditch on the Site, and in some shallow ground water wells. These results are documented in various EPA investigations, including the "Analytical Results Report for Richardson Flat Tailings" dated October 25, 1985 and the "Final Report" regarding removal assessment dated February 19, 1993.

11. The primary contaminant migration pathways for the Site, include, but are not limited to: (1) release to surface water and discharge to Silver Creek; (2) release to ground water and discharge of that ground water to Silver Creek or local wells; and (3) direct contact with tailings, contaminated soils, or contaminated sediments.

12. The Site was originally proposed for inclusion on the National Priorities List ("NPL") on June 24, 1988. Due to scoring issues and comments received from Respondent and others during the public comment period, the Site was removed from NPL consideration in February 1991. Using the revised Hazard Ranking System (Update 12), the Site was re-proposed for the NPL on February 7, 1992. No final action has been taken with regard to this proposed listing.

13. The Respondent, United Park City Mines Company, is the owner of the Site.

VI. CONCLUSIONS OF LAW AND DETERMINATIONS

14. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. Section 9601(9).

15. Wastes and constituents thereof at the Site, identified in paragraph 10 are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. Section 9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA.

16. The presence of hazardous substances at the Site or the past, present or potential migration of hazardous substances currently located at or emanating from the Site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. Section 9601(22).

17. Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. Section 9601(21).

18. Respondent is a responsible party under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. Sections 9604, 9607 and 9622.

19. The actions required by this Consent Order are necessary to protect the public health or welfare or the environment, are in the public interest, 42 U.S.C. Section 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. Sections 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. Section 9622(a).

VII. NOTICE

20. By providing a copy of this Consent Order to the State, EPA is notifying the State of Utah that this Consent Order is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by the Consent Order.

VIII. WORK TO BE PERFORMED

21. All work performed under this Consent Order shall be under the direction and supervision of qualified personnel. The Respondent has notified EPA that it intends to use the following personnel in carrying out such work: Kerry C. Gee, Resource Management Consultants, Inc., under the direction of James Fricke, and HDR Engineering, Inc., under the direction of Kenneth Napp. EPA hereby approves Respondent's use of the foregoing personnel and consultants in performing the work called for herein. In the event that Respondent desires to use different or additional personnel during the course of the RI/FS, Respondent shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories

to be used in carrying out such work. The qualifications of any new or additional persons undertaking the work for Respondent shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Consent Order is contingent on Respondent's demonstration to EPA's satisfaction that Respondent is qualified to perform properly and promptly the actions set forth in this Consent Order. If EPA disapproves in writing of any person(s)' technical qualifications, Respondent shall notify EPA of the identity and qualifications of the replacement(s) within 30 days of the written notice. If EPA subsequently disapproves of the replacement(s), EPA reserves the right to terminate this Consent Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondent.

22. Respondent shall conduct activities and submit deliverables as provided by the attached Statement of Work for Focused Remedial Investigation/Feasibility Study (the "SOW") and Workplan (the "Workplan"), which are incorporated by reference, for the development of the RI/FS. All such work shall be conducted in accordance with CERCLA, the NCP, and EPA guidance including, but not limited to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05) and guidances referenced therein, and guidances referenced in the Workplan, as may be amended or modified by EPA. The general activities that Respondent is required to perform are identified in the SOW and are described more fully in the Workplan. The tasks that Respondent must perform are described more fully in the Workplan and guidances. Deliverables identified in the SOW and Workplan shall be submitted to EPA as provided therein. All work performed under this Consent Order shall be in accordance with the schedules therein, and in full accordance with the standards, specifications, and other requirements of the Workplan and sampling and analysis plan, as initially approved or modified by EPA, and as may be amended or modified by EPA from time to time. For the purpose of this Consent Order, day means calendar day unless otherwise noted in the Consent Order.

23. EPA reserves the right to comment on, modify and direct changes for all deliverables. At EPA's discretion, Respondent must fully correct all deficiencies and incorporate and integrate all information and comments supplied by EPA either in subsequent or resubmitted deliverables.

24. Respondent shall not proceed further with any subsequent activities or tasks until receiving EPA approval for the following deliverables: sampling and analysis plan, draft focused remedial investigation report, treatability testing work plan (if required) and sampling and analysis plan, and draft focused feasibility study report. While awaiting EPA approval on these deliverables, Respondent shall proceed with all other tasks and activities which

may be conducted independently of these deliverables, in accordance with the schedule set forth in this Consent Order.

25. Upon receipt of the draft focused FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed.

26. For all remaining deliverables not enumerated above in paragraph 22, Respondent shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Respondent from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.

27. In the event that Respondent amends or revises a report, plan or other submittal upon receipt of EPA comments, if EPA subsequently disapproves of the revised submittal, or if subsequent submittals do not fully reflect EPA's directions for changes, EPA retains the right to seek stipulated or statutory penalties; perform its own studies, complete the RI/FS (or any portion of the RI/FS) under CERCLA and the NCP, and seek reimbursement from the Respondent for its costs; and/or seek any other appropriate relief.

28. In the event that EPA takes over some of the tasks, but not the preparation of the RI/FS, Respondent shall incorporate and integrate information supplied by EPA into the final RI/FS report.

29. Neither failure of EPA to expressly approve or disapprove of Respondent's submissions within a specified time period(s), nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondent(s)' deliverables, Respondent is responsible for preparing deliverables acceptable to EPA.

30. Respondent shall, prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to EPA's Designated Project Coordinator of such shipment of hazardous substances. However, the notification of shipments shall not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.

(a) The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondent shall notify the receiving state of major changes in the shipment plan, such as a decision to

ship the hazardous substances to another facility within the same state, or to a facility in another state.

(b) The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the focused remedial investigation and feasibility study. Respondent shall provide all relevant information, including information under the categories noted in paragraph 30(a) above, on the off-site shipments, as soon as practical after the award of the contract and before the hazardous substances are actually shipped.

IX. EPA'S FOCUSED BASELINE RISK ASSESSMENT

31. EPA will perform the focused baseline risk assessment. The focused baseline risk assessment will be a streamlined human health/ecological risk assessment taking into account the existing conditions at the Site, the proposed future land use and existing information. Respondent shall support EPA in the effort by providing various information to EPA as outlined above. The major components of the focused baseline risk assessment include contaminant identification, exposure assessment, toxicity assessment, and human health and ecological risk characterization.

32. EPA will provide, after review of the Respondent's site characterization summary, sufficient information concerning the baseline risks such that the Respondent can begin drafting the focused feasibility study report and the Memorandum on Remedial Action Objectives. This information will normally be in the form of two or more focused baseline risk assessment memoranda prepared by EPA. One memorandum will generally include a list of the chemicals of concern for human health and ecological effects and the corresponding toxicity values. Another should list the current and potential future exposure scenarios, exposure assumptions, and exposure point concentrations that EPA plans to use in the focused baseline risk assessment. The public, including the Respondent, may comment on these memoranda. However, the Agency is obligated to respond only to significant comments that are submitted during the formal public comment period.

33. EPA will make good faith efforts to provide a draft focused baseline risk assessment to Respondent no later than ninety (90) days after EPA acceptance of the focused RI report as final. After EPA responds to any significant comments from the Respondent, EPA will release the focused baseline risk assessment to the public at the same time it releases the final RI report. Both reports will be put into the administrative record for the Site. EPA will respond to all significant comments on the memoranda or the focused baseline risk assessment that are resubmitted during the formal comment period in the Responsiveness Summary of the Record of Decision.

X. MODIFICATION OF THE WORKPLAN

34. If at any time during the RI/FS process, Respondent identifies a need for additional data, a memorandum documenting the need for additional data shall be submitted to the EPA Project Coordinator within 20 days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondent and whether it will be incorporated into reports and deliverables.

35. In the event of conditions posing an immediate threat to human health or welfare or the environment, Respondent shall notify EPA and the state immediately. In the event of unanticipated or changed circumstances at the Site, Respondent shall notify the EPA Project Coordinator by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In addition to the authorities in the NCP, in the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the Workplan, EPA shall modify or amend the Workplan in writing accordingly. Respondent shall perform the tasks set forth in the Workplan as modified or amended.

36. EPA may determine that, in addition to tasks defined in the initially approved Workplan, other additional work may be necessary to accomplish the objectives of the RI/FS as set forth in the Workplan for this RI/FS. EPA may require that the Respondent perform this work in addition to those required by the initially approved Workplan, including any approved modifications, if it determines that such actions are necessary for a complete RI/FS. Respondent shall confirm its willingness to perform the additional work in writing to EPA within seven (7) days of receipt of the EPA request or Respondent shall invoke dispute resolution. Subject to EPA resolution of any dispute, Respondent shall implement the additional tasks which EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the Workplan or written Workplan supplement. EPA reserves the right to conduct the additional work itself at any point, to seek reimbursement from Respondent, and/or to seek any other appropriate relief.

XI. QUALITY ASSURANCE

37. Respondent shall assure that work performed, samples taken and analyses conducted conform to the requirements of the Workplan, the QAPP and guidances identified therein. Respondent will assure that field personnel used by Respondent are properly trained in the use of field equipment and in chain of custody procedures.

XII. FINAL RI/FS, PROPOSED, PLAN, PUBLIC COMMENT,
RECORD OF DECISION, ADMINISTRATIVE RECORD

38. EPA retains the responsibility for the release to the public of the RI/FS report. EPA retains responsibility for the preparation and release to the public of the proposed plan and record of decision in accordance with CERCLA and the NCP.

39. EPA shall provide Respondent with the final RI/FS report, proposed plan and record of decision.

40. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondent must submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Respondent shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Respondent must additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondent and state, local or other federal authorities concerning selection of the response action. At EPA's discretion, Respondent may establish a community information repository at or near the Site, to house one copy of the administrative record.

XIII. PROGRESS REPORTS AND MEETINGS

41. Respondent shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

42. In addition to the deliverables set forth in this Consent Order, Respondent shall provide to EPA monthly progress reports by the 10th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall (1) describe the actions which have been taken to comply with this Consent Order during that month, (2) include all results of sampling and tests and all other data received by the Respondent, (3) describe work planned for the next two months with schedules relating such work to the overall project schedule for RI/FS completion and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XIV. SAMPLING, ACCESS, AND DATA AVAILABILITY/ADMISSIBILITY

43. All results of sampling, tests, modeling or other data (including raw data) generated by Respondent, or on Respondent's

behalf, during implementation of this Consent Order, shall be submitted to EPA in the subsequent monthly progress report as described in Section XII of this Order. EPA will make available to the Respondent validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

44. Respondent will orally notify EPA at least 15 days prior to conducting significant field events as described in the Workplan or sampling and analysis plan. At EPA's oral or written request, or the request of EPA's oversight assistant, Respondent shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) of any samples collected by the Respondent in implementing this Consent Order. All split samples of Respondent shall be analyzed by the methods identified in the QAPP.

45. At all reasonable times, EPA and its authorized representatives shall have the authority to enter and freely move about all property at the Site and off-site areas where work, if any, is being performed, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondent and its contractor pursuant to this order; reviewing the progress of the Respondent in carrying out the terms of this Consent Order; conducting tests as EPA or its authorized representatives deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to EPA by the Respondent. The Respondent shall allow these persons to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Consent Order, subject to a claim of privilege asserted in accordance with paragraph 46 below. Nothing herein shall be interpreted as limiting or affecting EPA's right of entry or inspection authority under federal law. All parties with access to the Site under this paragraph shall comply with all approved health and safety plans. Whenever reasonably possible, EPA shall notify Respondent orally or in writing at least seven (7) days prior to entering the Site to perform any of its inspection activities.

46. The Respondent may assert a claim of business confidentiality covering part or all of the information submitted to EPA pursuant to the terms of this Consent Order under 40 C.F.R. Section 2.20., provided such claim is allowed by section 104(e)(7) of CERCLA, 42 U.S.C. Section 9604(e)(7). This claim shall be asserted in the manner described by 40 C.F.R. Section 2.203(b) and substantiated at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA or the state without further notice to the Respondent. Respondent agrees not to assert confidentiality claims with respect to any data related to Site conditions, sampling, or monitoring. In addition, Respondent may assert that documents, records or other information

are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted. However, no documents, reports or other information created or generated pursuant to the requirements of this Consent Order shall be withheld on the grounds that they are privileged. Respondent shall retain all records and documents that they claim to be privileged until any such dispute has been resolved in Respondent's favor.

47. Except with regard to the objections already presented in comments filed by Respondent, in entering into this Order, Respondent waives any objections to any data gathered, generated, or evaluated under the terms of this Consent Order by EPA, the state, or Respondent in the performance or oversight of the work that has been verified according to the quality assurance/quality control (QA/QC) procedures required by the Consent Order or any EPA-approved work plans or sampling and analysis plans. If Respondent objects to any other data relating to the RI/FS, Respondent shall submit to EPA a report that identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within 15 days of the monthly progress report containing the data.

48. If the Site, or the off-site area that is to be used for access or is within the scope of the RI/FS, is owned in whole or in part by parties other than those bound by this Consent Order, Respondent will obtain, or use its best efforts to obtain, Site access agreements from the present owner(s) within sixty (60) days of the effective date of this Consent Order. Such agreements shall provide access for EPA, its contractors and oversight officials, the state and its contractors, and the Respondent or its authorized representatives, and such agreements shall specify that Respondent is not EPA's representative with respect to liability associated with site activities. Copies of such agreements shall be provided to EPA prior to Respondent's initiation of field activities. Respondent's best efforts shall include providing reasonable compensation to any off-site property owner. If access agreements are not obtained within the time referenced above, Respondent shall immediately notify EPA of its failure to obtain access. EPA may obtain access for the Respondent, perform those tasks or activities with EPA contractors, or terminate the Consent Order in the event that Respondent cannot obtain access agreements. In the event that EPA performs those tasks or activities with EPA contractors and does not terminate the Consent Order, Respondent shall perform all other activities not requiring access to that site, and shall reimburse EPA for all costs incurred in performing such activities. Respondent additionally shall

integrate the results of any such tasks undertaken by EPA into its reports and deliverables. Furthermore, Respondent agrees to indemnify the U.S. Government as specified in Section XXVI of this Order. Respondent also shall reimburse EPA for all costs and attorney fees incurred by the United States to obtain access for the Respondent pursuant to this paragraph.

XV. DESIGNATED PROJECT COORDINATORS

49. Documents including reports, approvals, disapprovals, and other correspondence which must be submitted under this Consent Order, shall be sent by certified mail, return receipt requested, to the following addressees or to any other addressees which the Respondent and EPA designate in writing:

(a) Three copies of documents to be submitted to EPA should be sent to:

Jim Christiansen
Richardson Flat Tailings Project
Coordinator,
Superfund Remedial Section, 8EPR-SR
US EPA, Region VIII,
999 18th Street, Denver, CO, 80202-2466.

(b) Two copies of documents to be submitted to the State should be sent to:

Muhammad A. Slam
State of Utah Department of Environmental Quality
Division of Environmental Response & Remediation
168 North 1950 West, 1st Floor
Salt Lake City, Utah 84116

(c) One copy of documents to be submitted to the Respondent should be sent to:

Kerry C. Gee
Vice President
United Park City Mines Company
P.O. Box 1450
Park City, Utah 84060

And

Kevin R. Murray
LeBoeuf, Lamb, Green & MacRae
136 South Main, Suite 1000
Salt Lake City, Utah 84101

50. On or before the effective date of this Consent Order, EPA and the Respondent shall each designate their own Project

Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, communications between the Respondent and EPA shall be directed to the Project Coordinator by mail, with copies to such other persons as EPA, the state, and Respondent may respectively designate. Communications include, but are not limited to, all documents, reports, approvals, and other correspondence submitted under this Consent Order.

51. EPA and the Respondent each have the right to change their respective Project Coordinator. The other party must be notified in writing at least 10 days prior to the change.

52. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's Project Coordinator shall have the authority consistent with the National Contingency Plan, to halt any work required by this Consent Order, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Consent Order shall not be cause for the stoppage or delay of work.

53. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). The oversight assistant may observe work and make inquiries in the absence of EPA, but is not authorized to modify the Workplan.

XVI. OTHER APPLICABLE LAWS

54. Respondent shall comply with all laws that are applicable when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, where such action is selected and carried out in compliance with Section 121 of CERCLA.

XVII. RECORD PRESERVATION

55. All records and documents in EPA's and Respondent's possession that relate in any way to the Site shall be preserved during the conduct of this Consent Order and for a minimum of 10 years after commencement of construction of any remedial action. The Respondent shall acquire and retain copies of all documents that relate to the Site and are in the possession of its employees, agents, accountants, contractors, or attorneys. After this 10 year period, the Respondent shall notify EPA at least 90 days before the documents are scheduled to be destroyed. If EPA requests that the documents be saved, the Respondent shall, at no cost to EPA, give EPA the documents or copies of the documents.

XVIII. DISPUTE RESOLUTION

56. Any disputes concerning activities or deliverables required under this Consent Order, excluding the baseline risk assessment, for which dispute resolution has been expressly provided for, shall be resolved as follows: If the Respondent objects to any EPA notice of disapproval or requirement made pursuant to this Consent Order, Respondent shall notify EPA's Project Coordinator in writing of its objections within 14 days of receipt of the disapproval notice or requirement. Respondent's written objections shall define the dispute, state the basis of Respondent's objections, and be sent certified mail, return receipt requested. EPA and the Respondent then have an additional 14 days to reach agreement. If an agreement is not reached within 14 days, Respondent may request a determination by the Director. The Director's determination is EPA's final decision. Respondent shall proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether Respondent agrees with the decision. If the Respondent does not agree to perform or does not actually perform the work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to conduct the work itself, to seek reimbursement from the Respondent, to seek enforcement of the decision, to seek stipulated penalties, and/or to seek any other appropriate relief.

57. Respondent is not relieved of its obligations to perform and conduct activities and submit deliverables on the schedule set forth in the Workplan, while a matter is pending in dispute resolution. The invocation of dispute resolution does not stay stipulated penalties under this Consent Order.

XIX. DELAY IN PERFORMANCE/STIPULATED PENALTIES

58. For each day that the Respondent fails to complete a deliverable in a timely manner or fails to produce a deliverable of acceptable quality, or otherwise fails to perform in accordance with the requirements of this Consent Order, Respondent shall be liable for stipulated penalties. EPA may, in its sole discretion, impose a lesser penalty than those set forth below for minor violations. Any reduction in the stipulated penalty imposed shall be solely at EPA's discretion and shall not be subject to dispute resolution. Penalties begin to accrue on the day that performance is due or a violation occurs, and extend through the period of correction. Where a revised submission by Respondent is required, stipulated penalties shall continue to accrue until a satisfactory deliverable is produced. EPA will provide written notice for violations that are not based on timeliness; nevertheless, penalties shall accrue from the day a violation commences. Payment shall be due within 30 days of receipt of a demand letter from EPA.

59. Respondent shall pay interest on the unpaid balance, which shall begin to accrue at the end of the 30-day period, at the rate established by the Department of Treasury pursuant to 30 U.S.C.

Stip only

Stips only

Section 3717. Respondent shall further pay a handling charge of 1 percent, to be assessed at the end of each 31 day period, and a 6 percent per annum penalty charge, to be assessed if the penalty is not paid in full within 90 days after it is due.

60. Respondent shall make all payments by forwarding a certified or cashier's check made payable to "EPA Hazardous Substance Superfund." Each check shall reference the name and address of the party making payment, the site name, the EPA Region and SSID NUMBER 08-94, and the EPA docket number for this action, and shall be sent to:

Regular mail:

Mellon Bank
EPA Region VIII
Attn: Superfund Accounting
Post Office Box 360859
Pittsburgh, Pennsylvania 15251-6859

Express Mail:

Mellon Bank
3 Mellon Bank Center
ROOM#153-2713
Pittsburgh, Pennsylvania 15259

or other such address as EPA may designate in writing or by wire transfer to:

ABA=021030004
TREAS NYC/CTR/
BNF=/AC-68011008

Wire transfers must be sent to the Federal Reserve Bank in New York.

61. At the time of payment, each Settling Party shall send notice that such payment has been made to:

Enforcement Specialist
Richardson Flat Tailings Site
U.S. EPA Region 8
Suite 300 (8ENF-T)
999 18th Street
Denver, CO 80202-2466

62. For the following major deliverables, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first seven days of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day; and \$2,000 per day per violation for all violations lasting beyond 30 days.

- 1) An original and any revised sampling and analysis plan.
- 2) An original and any revised focused remedial investigation report.
- 3) An original and any revised treatability testing work plan, if required.
- 4) An original and any revised treatability study sampling and analysis plan, if required.
- 5) An original and any revised focused feasibility study report.

63. For the following interim deliverables, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first week of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day of noncompliance; and \$2,000 per day per violation for all violations lasting beyond 30 days.

- 1) Technical memorandum on modeling of site characteristics, if required.
- 2) Summary of RI data,
- 3) Identification of candidate technologies memorandum.
- 4) Treatability testing statement of work, if required.
- 5) Treatability study evaluation report, if required.
- 6) Memorandum on remedial action objectives.
- 7) Memoranda on development, screening, and detailed comparative analysis of alternatives.

64. For the monthly progress reports, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first week of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day; and \$2,000 per day, per violation, for all violations lasting beyond 30 days.

65. Respondent may dispute EPA's right to the stated amount of penalties by invoking the dispute resolution procedures under Section XVIII herein. Penalties shall accrue but need not be paid during the dispute resolution period. If Respondent does not prevail upon resolution, all penalties shall be due to EPA within 30 days of resolution of the dispute. If Respondent prevails upon resolution, no penalties shall be paid.

66. In the event that EPA provides for corrections to be reflected in the next deliverable and does not require re-submission of that deliverable, stipulated penalties for that interim deliverable shall cease to accrue on the date of such decision by EPA.

67. The stipulated penalties provisions do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of the Respondent's failure to comply with this Consent Order, including but not limited to conduct of all or part of the RI/FS by EPA. Payment of stipulated penalties does not alter Respondent's obligation to complete performance under this Consent Order.

68. If Respondent submits any major or interim deliverable to EPA early or on time, EPA will make good faith efforts to provide formal comments no later than one calendar month from the due date of the deliverable.

XX. FORCE MAJEURE

69. "Force majeure", for purposes of this Consent Order, is defined as any event arising from causes entirely beyond the control of the Respondent and of any entity controlled by Respondent, including its contractors and subcontractors, that delays the timely performance of any obligation under this Consent Order notwithstanding Respondent's best efforts to avoid the delay. The requirement that the Respondent exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent practicable. Examples of events that are not force majeure events include, but are not limited to, increased costs or expenses of any work to be performed under this Consent Order or the financial difficulty of Respondent to perform such work.

70. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Order, whether or not caused by a force majeure event, Respondent shall notify by telephone the Remedial Project Manager or, in his or her absence, the Director, within 48 hours of when the Respondent knew or should have known that the event might cause a delay. Within five business days thereafter, Respondent shall provide in writing the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Respondent shall exercise best efforts to avoid or minimize any delay and any effects of a

delay. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure.

71. If EPA agrees that the delay or anticipated delay is attributable to force majeure, the time for performance of the obligations under this Consent Order that are directly affected by the force majeure event shall be extended by agreement of the parties, pursuant to Section XXVII of this Consent Order, for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation.

72. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or does not agree with Respondent on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in Section XVIII of this Consent Order. In any such proceeding, to qualify for a force majeure defense, Respondent shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, that Respondent did exercise or is exercising due diligence by using its best efforts to avoid and mitigate the effects of the delay, and that Respondent complied with the requirements of paragraph 70.

73. Should Respondent carry the burden set forth in paragraph 72, the delay at issue shall be deemed not to be a violation of the affected obligation of this Consent Order.

XXI. REIMBURSEMENT OF PAST COSTS

74. To date, EPA has incurred costs in responding to the release of hazardous substances at and from the Site (Past Costs). EPA and Respondent are in the process reviewing these Past Costs and will use their best efforts to resolve outstanding issues. The parties intend to embody any agreement regarding payment of Past Costs in a separate administrative order and to include to the extent possible other potentially responsible parties for the Site.

XXII. REIMBURSEMENT OF RI/FS RESPONSE AND OVERSIGHT COSTS

75. Following the issuance of this Consent Order, EPA shall submit to the Respondent on a periodic basis an accounting of all response costs including oversight costs incurred by the U.S. Government with respect to this RI/FS. Response costs may include, but are not limited to, costs incurred by the U.S. Government in overseeing Respondent's implementation of the requirements of this Consent Order and activities performed by the government as part of the RI/FS and community relations, including any costs incurred while

obtaining access. Costs shall include all direct and indirect costs, including, but not limited to, time and travel costs of EPA personnel and associated indirect costs, contractor costs, cooperative agreement costs, compliance monitoring, including the collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that may arise as a result of this Consent Order, review and approval or disapproval of reports, costs of performing the focused baseline risk assessment, and costs of redoing any of Respondent's tasks. Any necessary summaries, including, but not limited to EPA's SCORE\$ Report or such other summary as certified by EPA, shall serve as basis for payment demands.

76. Respondent shall, within 60 days of receipt of each accounting, remit a certified or cashier's check for the amount of all uncontested costs. Interest shall accrue from the later of: the date payment of a specified amount is demanded in writing; or the date of the expenditure. The interest rate is the rate of interest on investments for the Hazardous Substances Superfund in Section 107(a) of CERCLA. Respondent reserves and retains the right to pursue claims against other "persons" as defined in Section 101(21) of CERCLA for contribution or indemnity for these costs.

77. Respondent shall make payment by forwarding a certified or cashier's check made payable to "EPA Hazardous Substance Superfund." Each check shall reference the name and address of the party making payment, the site name, the EPA Region and SSID NUMBER 08-94, and the EPA docket number for this action, and shall be sent to:

Regular mail:

Mellon Bank
EPA Region VIII
Attn: Superfund Accounting
Post Office Box 360859
Pittsburgh, Pennsylvania 15251-6859

Express Mail:

Mellon Bank
3 Mellon Bank Center
ROOM#153-2713
Pittsburgh, Pennsylvania 15259

or other such address as EPA may designate in writing or by wire transfer to:

ABA=021030004
TREAS NYC/CTR/
BNF=/AC-68011008

Wire transfers must be sent to the Federal Reserve Bank in New York.

78. At the time of payment, Respondent shall send notice that such payment has been made to:

Enforcement Specialist,
Richardson Flat Tailings Site
U.S. EPA Region 8
Suite 300 (8ENF-T)
999 18th Street
Denver, CO 80202-2466

79. Copies of the transmittal letter and check should be sent simultaneously to the EPA Project Coordinator.

80. If Respondent disputes any costs due to accounting errors, the inclusion of costs outside the scope of this Consent Order, or that such costs are inconsistent with the NCP, Respondent shall identify any contested costs and the basis of its objection. All undisputed costs shall be remitted by Respondent in accordance with the schedule set forth above. Disputed costs shall be paid by Respondent into an escrow account while the dispute is pending. Respondent bears the burden of establishing an EPA accounting error, the inclusion of costs outside the scope of this Consent Order, or inconsistency with the NCP.

XXIII. RESERVATIONS OF RIGHTS AND REIMBURSEMENT OF OTHER COSTS

81. EPA reserves the right to bring an action against the Respondent under section 107 of CERCLA for recovery of all response costs including oversight costs, incurred by the United States at the Site that are not reimbursed by the Respondent, any costs incurred in the event that EPA performs the RI/FS or any part thereof, and any future costs incurred by the United States in connection with response activities conducted under CERCLA at this Site.

82. EPA reserves the right to bring an action against Respondent to enforce the RI/FS response and oversight cost reimbursement requirements of this Consent Order, to collect stipulated penalties assessed pursuant to Section XIX of this Consent Order, and to seek penalties pursuant to Section 109 of CERCLA, 42 U.S.C. Section 9609.

83. Except as expressly provided in this Consent Order, each party reserves all rights and defenses it may have. Respondent specifically reserves its rights and defenses regarding liability or responsibility in any proceedings regarding this Site other than proceedings to enforce this Consent Order. Nothing in this Consent Order shall affect EPA's removal authority or EPA's response or enforcement authorities including, but not limited to, the right to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages.

84. Following satisfaction of the requirements of this Consent Order, Respondent shall have resolved its liability to EPA for the work performed by Respondent pursuant to this Consent Order. Respondent is not released from liability, if any, for any response actions taken beyond the scope of this Consent Order regarding removals, other operable units, remedial design/remedial action of this Site, Past Costs, or activities arising pursuant to Section 121(c) of CERCLA.

XXIV. DISCLAIMER

85. By signing this Consent Order and taking actions under this Consent Order, the Respondent does not necessarily agree with EPA's Findings of Fact and Conclusions of Law. Furthermore, the participation of the Respondent in this Consent Order, as well as EPA's findings of Fact and Conclusions of Law set forth in this Consent Order, shall not be considered an admission of liability and is not admissible in evidence against the Respondent in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to it. Respondent retains its rights to assert claims against other potentially responsible parties at the Site. However, the Respondent agrees not to contest the validity or terms of this Consent Order, or the procedures underlying or relating to it in any action brought by the United States, including EPA, to enforce its terms.

XXV. OTHER CLAIMS

86. In entering into this Consent Order, Respondent waives any right to seek reimbursement under section 106(b) of CERCLA. Respondent also waives any right to present a claim under section 111 or 112 of CERCLA. This Consent Order does not constitute any decision on preauthorization of funds under section 111(a)(2) of CERCLA. Respondent further waives all other statutory and common law claims against EPA, including, but not limited to, contribution and counterclaims, relating to or arising out of conduct of the RI/FS.

87. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership, subsidiary or corporation not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site. Nothing contained in this Consent Order shall affect any right, claim, interest or cause of action of any party hereto with respect to third parties.

88. Respondent shall bear its own costs and attorneys fees.

89. The parties agree that the Respondent is entitled, upon EPA approval of Respondent's certification that all requirements of this Consent have been satisfied, to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2) for matters addressed in this Consent Order. The "matters addressed" in this Consent Order include the performance of a RI/FS for the tailings impoundment at this Site. The "matters addressed" in this Consent Order do not include payment of Past Costs, the performance of any remedial action or cleanup action determined to be necessary at the tailings impoundment, or payment of any response costs resulting therefrom.

XXVI. INSURANCE AND INDEMNIFICATION

90. (a) Prior to commencement of any work under this Consent Order, Respondent shall secure or ensure that its contractors or subcontractors secure, and shall maintain in force for the duration of this Consent Order, Comprehensive General Liability ("CGL") and automobile insurance, with limits of \$ 1.0 million dollars, combined single limit, naming as insured the United States. The CGL insurance shall include Contractual Liability Insurance in the amount of \$1.0 million per occurrence, and Umbrella Liability Insurance in the amount of \$2 million per occurrence.

(b) Respondent shall also secure or ensure that its contractors or subcontractors also secure, and maintain in force for the duration of this Consent Order the following:

- i. Professional Errors and Omissions Insurance in the amount of \$1,000,000.00 per occurrence; and
- ii. Pollution Liability Insurance in the amount of \$1,000,000.00 per occurrence, covering as appropriate both general liability and professional liability arising from pollution conditions.

(c) For the duration of this Order, Respondent shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's compensation insurance for all persons performing work on behalf of the Respondent, in furtherance of this Consent Order.

(d) If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then with respect to that contractor or subcontractor Respondent need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

(e) Prior to commencement of any work under this Consent Order, and annually thereafter on the anniversary of the effective date of this Consent Order, Respondent shall provide to EPA certificates of such insurance and a copy of each insurance policy.

91. At least 7 days prior to commencing any work under this Consent Order, Respondent shall certify to EPA that the required insurance has been obtained by that contractor.

92. The Respondent agrees to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims or causes of action arising from or on account of acts or omissions of Respondent, its employees, agents, servants, receivers, successors, or assignees, or any persons including, but not limited to, firms, corporations, subsidiaries and contractors, in carrying out activities under this Consent Order. The United States Government or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Respondent in carrying out activities under this Consent Order.

XXVII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

93. The effective date of this Consent Order shall be the date it is signed by EPA.

94. This Consent Order may be amended by mutual agreement of EPA and Respondent. Amendments shall be in writing. Project Coordinators do not have the authority to sign amendments to the Consent Order.

95. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by the Respondent will be construed as relieving the Respondent of its obligation to obtain such formal approval as may be required by this Consent Order. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules and attachments required by this Consent Order are, upon approval by EPA, incorporated into this Consent Order.

XXVIII. TERMINATION AND SATISFACTION

96. This Consent Order shall terminate when the Respondent demonstrates in writing and certifies to the satisfaction of EPA that all activities required under this Consent Order, including any additional work, payment of past costs, response and oversight costs, and any stipulated penalties demanded by EPA, have been performed and EPA has approved the certification. This notice shall not, however, terminate Respondent's obligation to comply with Sections XVII, XXIII, and XXV of this Consent Order.

97. The certification referred to in the preceding paragraph shall be signed by a responsible official representing the Respondent. The representative shall make the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate, and complete." For purposes of this Consent Order, a responsible official is a corporate official who is in charge of a principal business function.

[SEE NEXT PAGE FOR SIGNATURES]

AGREED TO:

United Park City Mines

BY: *Mark [Signature]*, *President*
(Respondent) Title

DATE: 9/27/00

AGREED TO AND ORDERED:

U.S. Environmental Protection Agency Region 8

BY: *Dale Vodehnal*
Dale Vodehnal, Director
Superfund Remedial Response Program
Office of Ecosystem Protection and Remediation

DATE: 9/28/2000

Delegated Authority?

STATEMENT OF WORK
FOR
FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
RICHARDSON FLAT TAILINGS SITE
SUMMIT COUNTY, UTAH
UT980952840

INTRODUCTION

United Park City Mines Company ("United Park") submits this Statement of Work ("SOW") to perform a focused remedial investigation/feasibility study at the Richardson Flat Tailings Site, located in Summit County, Utah (the "Site"). In support of this SOW, United Park has prepared a Focused Remedial Investigation/Feasibility Study Work Plan (the "Focused RI/FS Work Plan"), which is attached hereto as Exhibit A and incorporated by reference to this SOW. At the request of United States Environmental Protection Agency ("EPA") Region 8, this SOW has been prepared based on and in conformance with EPA's July 2, 1991 Model Statement of Work for PRP-Conducted Remedial Investigations and Feasibility Studies (EPA's "Model SOW"). This work is being conducted in full cooperation with both the EPA and the Utah Department of Environmental Quality (UDEQ).

As described in Section 1.0 of the Focused RI/FS Work Plan, United Park is the current owner of a large parcel of property (the "Property"), comprising approximately 700 acres, located in Summit County, Utah. Figure 1.0 of the Focused RI/FS Work Plan shows the general geographic location of the Property. A historic mine tailings impoundment, consisting of a large, geometrically closed basin formed by an earth embankment and a series of perimeter containment dikes, covers approximately 160 acres of the Property and is sometimes referred to as "Richardson Flat" or simply the "Site." The tailings impoundment resulted from decades of mining and milling silver-laden ore in the area around Park City known as the Park City Mining District. The Site is depicted in Figure 2.0 of the Focused RI/FS Work Plan.

The Site has remained unused since mining and milling operations ceased in 1982. Over the past fifteen years, EPA Region 8, the Utah Department of Environmental Quality ("UDEQ") and United Park have been investigating the Site in order to characterize the Site and determine potential adverse impacts to human health and the environment associated with the Site. At the same time, United Park has been implementing a series of remedial measures at the Site intended to mitigate any potential adverse impacts on human health and the environment.

The objectives of this focused remedial investigation/feasibility study ("RI/FS") are to further investigate the nature and extent of contamination at the Site, to supplement the

investigation efforts performed at the Site to date, to collect sufficient data to support EPA's risk assessment and analysis, and, if necessary, develop and evaluate potential additional remedial alternatives to support final Site closure. The focused RI and FS are interactive and may be conducted concurrently so that the additional data collected in the focused RI influences the development of additional remedial alternatives in the FS, which in turn affects the data needs and the scope of treatability studies, if any are required.

United Park will conduct this focused RI/FS (except for the focused risk assessment component and any community involvement activities which will be conducted by the EPA and UDEQ) and will produce a draft RI/FS report that are in accordance with this SOW, and to the extent appropriate for the Site, the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988), and any other guidance that EPA uses in conducting a RI/FS (a list of the primary guidance is attached), as well as any additional requirements in the administrative order. United Park will furnish all necessary personnel, materials, and services needed, or incidental to, performing the focused RI/FS, except as otherwise specified in the administrative order.

At the completion of the focused RI/FS, EPA in consultation with UDEQ will be responsible for the selection of a site remedy and will document this selection in a Record of Decision (ROD). The remedial action alternative selected by EPA in consultation with UDEQ will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element, as appropriate for the Site. The final focused RI/FS report, as adopted by EPA in consultation with UDEQ and EPA's focused risk assessment will, with the administrative record, form the basis for the selection of the Site's final closure remedy and will provide the information necessary to support the development of the ROD.

As specified in CERCLA Section 104(a)(1), as amended by SARA, EPA will provide oversight of United Park's activities throughout the focused RI/FS. United Park will support EPA's initiation and conduct of activities related to the implementation of oversight activities.

TASK 1 - SCOPING

As described in Section 3 of the Focused RI/FS Work Plan, since the 1970s, numerous environmental investigations have been conducted relating to the Site. The reports and data from these prior investigations are very useful in determining the scope of additional investigative activities needed to bring final closure to the Site. From 1985 to 1988 and from 1992 to 1993, the EPA conducted and reported on investigations at the Site. Based on previous and current environmental studies and existing Site conditions, United Park has developed a conceptual model of the Site. As described in Section 4 of the Focused RI/FS Work Plan, the Preliminary Site Model will be used to scope and evaluate the need for supplemental remedial investigation work (as described in Section 5 of the Focused RI/FS Work Plan) to assist in the development of further remedial measures to support final Site closure. United Park will develop a Preliminary Site Model in coordination with EPA and UDEQ.

As described in the Focused RI/FS Work Plan, the Site is similar in construction and characteristics to other tailings impoundment's found throughout Utah and other Rocky Mountain States. The tailings on this Site are non-reactive and were derived from ore bodies contained in carbonate host rocks. Soil, surface water, and groundwater media will be addressed in both the additional investigative work and in the evaluation of further remedial measures as part of the RI/FS work to be performed pursuant to this SOW. Recent and past investigations show that the tailings are underlain by native high-clay-content soils, sitting within an enclosure constituting a large, geometrically closed impoundment, covered with a vegetated soil cover. There is a surface water diversion ditch system that surrounds the impounded tailings. Because the characteristics of the Site are similar to other tailings impoundment's in the Rocky Mountain region, much is known about such sites generally and about the effectiveness of such an impoundment's construction. Such information will also be very useful in determining the scope of additional investigative activities needed to bring final closure to the Site.

When scoping the specific aspects of a project, United Park will meet with EPA and UDEQ to discuss all project planning decisions and special concerns associated with the Site. As a function of the project planning process, United Park will perform the activities described below to the extent they have not already been performed.

a. Site Background and Site Visit

The respondent will gather and analyze the existing site background information and will conduct a site visit to assist in planning the scope of the RI/FS. The respondent will also

collect and analyze existing data and document the need for additional data. Before planning RI/FS activities, all existing site data will be thoroughly compiled and reviewed by the respondent. Specifically, this will include presently available data relating to the varieties and quantities of hazardous substances at the site, and past disposal practices. This will also include results from any previous sampling events that may have been conducted. This information will be utilized in determining additional data needed to characterize the site, better define potential applicable or relevant and appropriate requirements (ARARs), and develop a range of preliminarily identified remedial alternatives.

The respondent will also conduct a site visit during the project scoping phase to assist in developing a conceptual understanding of sources and areas of contamination, as well as potential exposure pathways and receptors at the site. This information will be utilized to better scope the project and to determine the extent of additional data necessary to characterize the site, better define potential ARARs, and narrow the range of preliminarily identified remedial alternatives.

Consistent with EPA's Model SOW, United Park has gathered and analyzed the existing Site background information and has conducted numerous Site visits to assist in scoping its focused RI/FS. The results of these efforts are reported in Sections 2, 3 and 4 of the Focused RI/FS Work Plan. This information was utilized in determining additional data needed to characterize the Site, and will assist to better define potential ARARs and develop a range of preliminarily identified additional remedial alternatives. The results of these efforts are reported in Sections 5 and 7 of the Focused RI/FS Work Plan. In addition, United Park has conducted site visits with personnel from the EPA and UDEQ. The Site work completed from 1985 to 1993 by EPA and UDEQ has provided a great deal of background information on the Site. There is a good deal of institutional knowledge about the Site.

b. Project Planning

Once the respondent has collected and analyzed existing data and conducted a site visit, the specific project scope will be planned. Project planning activities include those tasks described below, as well as identifying data needs, developing a work plan, designing a data collection program, and identifying health and safety protocols.

As described in the Focused RI/FS Work Plan, United Park has been implementing a series of remedial measures at the Site intended to mitigate any potential adverse impacts on human health and the environment. As the result of previous Site operations and United Park's remedial efforts, United Park believes that key elements are already in place to support final Site closure. These closure elements include:

- Installation of multiple monitoring wells to monitor groundwater conditions in and around the Site
- Construction of a large, earth embankment and a series of containment dikes to contain the tailings
- Construction of a diversion ditch system surrounding the impoundment to collect and redirect surface and ground water
- Placement of a vegetated clay soil cover to isolate the tailings, to prevent tailings from becoming wind-borne, and to minimize the infiltration of water to the tailings
- Installation of a security fence to limit Site access

Based on the data collected from and the remedial measures that have already been implemented at the Site to date, and in consideration of remedial measures implemented at similar tailings impoundment sites throughout Utah and other Rocky Mountain States, United Park believes that final Site closure can be achieved without the implementation of further remedial measures.

However, United Park recognizes that EPA has concerns about Site conditions that the agency believes must be addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, United Park agrees to further investigate the nature and extent of contamination at the Site to supplement the investigation efforts performed at the Site to date and confirm that the measures implemented at the Site to date are adequate to support final closure of the Site. If necessary, based on the findings of these efforts, United Park will also develop and evaluate potential additional remedial alternatives to support a final closure of the Site that is protective of human health and the environment, and consistent with contemplated future land use of the Site. United Park proposes to use the data derived from the Focused RI/FS (together with a focused risk assessment to be performed by EPA) to determine whether any further remedial measures are needed to support final Site closure. If and to the extent further remedial measures are required, United Park believes that any appropriate final remedy for the Site should be consistent with and incorporate, to the maximum extent practicable, all elements of the existing Site closure.

If remedial actions involving treatment have been identified by the respondent or EPA, treatability studies will be required except where the respondent can demonstrate to EPA's satisfaction that they are not needed. Where treatability studies are needed, initial treatability testing activities (such as research and study design) will be planned to occur concurrently with site characterization activities.

As previously described in this SOW and in the Focused RI/FS Work Plan, United Park will develop and evaluate potential additional remedial alternatives to support a final closure of the Site that is protective of human health and the environment, and consistent with contemplated future land use of the Site. As described in Section 7.0 of the Focused RI/FS Work Plan, a preliminary list of such additional remedial measures may include:

- Improving and maintaining the main embankment stability and integrity
- Improving and maintaining the soil cover
- Improving and maintaining the surface drainage
- Improving and maintaining the diversion ditches
- Excavating tailings located outside of the impoundment, placing the same within the impoundment, and placement of additional cover
- Establishing appropriate institutional controls to prevent unacceptable exposure risk

At this time, such preliminary additional remedial measures would not involve treatment of hazardous wastes or substances. Consequently, it is unlikely that treatability studies would need to be performed as part of the evaluation and selection of final additional remedial measures to support final closure of the Site. However, if new information comes to light as a result of United Park's focused RI/FS efforts, or if circumstances change, then United Park will evaluate the need for and conduct, as necessary, treatability tests in accordance with the NCP and as approved by EPA.

The respondent will conduct a preliminary identification of potential state and federal ARARs (chemical-specific, location-specific and action-specific) to assist in the refinement of remedial action objectives, and the initial identification of further remedial alternatives and ARARs associated with particular actions. ARARs identification will continue as site conditions, contaminants, and remedial action alternatives are better defined.

As described in Sections 6.0 and 7.0 of the Focused RI/FS Work Plan, evaluation of any further remedial alternatives to support the final Site closure will include an assessment of the feasibility and overall effectiveness of such measures based on the requirements of CERCLA and the NCP. This will include a focused risk assessment (to be performed by EPA) that is based on possible future land use scenarios. At the outset of the focused feasibility study, ARARs for the final Site closure will be preliminarily identified. Since the range of possible future land uses will be set out early in the process, the proposed ARARs will be focused on a narrow range of remedial measures to support final Site closure. ARARs identification will continue as Site conditions, contaminants, and remedial action alternatives are better defined.

c. **Scoping Deliverables -- Focused RI/FS Work Plan, Sampling and Analysis Plan, and Health and Safety Plan.**

According to EPA's Model SOW, at the conclusion of the project planning phase, the respondent will submit a RI/FS work plan, a sampling and analysis plan ("SAP"), and a site health and safety plan ("HASP"). The SAP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP). The FSP will define the sampling and data-gathering methods that will be used on the project. The QAPP will describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired data quality objectives ("DQOs"). The HASP will be prepared in conformance with the respondent's health and safety program, and in compliance with OSHA regulations and protocols. The RI/FS work plan and SAP must be reviewed and approved by EPA prior to the initiation of field activities. United Park and EPA will coordinate comments so that the SAP will include sampling and field procedures to be followed by EPA oversight contractors. This portion of the SAP will include procedures for EPA oversight sampling for both scheduled and unscheduled sampling events.

The Focused RI/FS Work Plan is attached to this SOW and will be deemed approved upon EPA's signature of the AOC. The Work Plan provides additional detail to the tasks set forth in this SOW where available. The Sampling and Analysis Plan, and Health and Safety Plan will be submitted to the agencies within 60 days of EPA's signing of the AOC.

The SAP will most likely be delivered initially addressing only certain specific aspects of the RI/FS. If additional data gathering needs for specific aspects of the RI/FS are identified, the SAP will be supplemented with the additional data gathering criteria.

As previously indicated in this SOW, United Park has prepared a Focused RI/FS Work Plan, attached hereto as Exhibit A. Within sixty (60) days of the effective date of the AOC, United Park will also prepare a SAP (which includes a FSP and QAPP) and HASP prior to conducting any supplemental fieldwork at the Site. Consistent with EPA's Model SOW, the Focused RI/FS Work Plan and SAP will be reviewed and approved by EPA prior to the initiation of field activities.

TASK 2 - COMMUNITY RELATIONS

The development and implementation of community relations activities are the responsibility of EPA and UDEQ. Although implementation of the community relations plan is the responsibility of EPA and UDEQ, United Park may assist by providing information regarding

the Site's history, participating in public meetings, or by assisting in the preparation of fact sheets for distribution to the general public. United Park may establish a community information repository, at or near the Site, to house one copy of the administrative record. The extent of United Park's involvement in community relations activities is left to the discretion of the agencies. United Park's community relations responsibilities, if any, will be specified in the community relations plan. All community relations activities conducted by United Park will be subject to oversight by EPA.

TASK 3 - SITE CHARACTERIZATION

a. Field Investigation

During this phase, the Focused RI/FS Work Plan, SAP, and HASP are implemented. As set forth in Section 5 of the Focused RI/FS Work Plan, the supplemental field investigation will include the gathering of additional data to further define site physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. United Park, in accordance with the Focused RI/FS Work Plan and SAP will perform these activities. United Park will initiate field support activities following approval of the Focused RI/FS Work Plan and SAP. Field support activities may include obtaining access to the site, scheduling, and procuring equipment, office space, laboratory services, and/or contractors, as appropriate. United Park will notify EPA and UDEQ at least two weeks prior to initiating field support activities, so that EPA may adequately schedule oversight tasks. United Park will also notify EPA and UDEQ in writing upon completion of field support activities. United Park shall complete initial fieldwork within seventeen (17) months of EPA approval or modification of the SAP.

b. Data Analysis

In accordance with the Focused RI/FS Work Plan, United Park will analyze and evaluate the existing and any newly-collected data to describe: (1) site physical and biological characteristics, (2) contaminant source characteristics, (3) nature and extent of contamination and (4) contaminant fate and transport. The RI data will be presented in a format (i.e., computer disc or equivalent) to facilitate EPA's preparation of the focused risk assessment. United Park shall agree to discuss and then collect any data gaps identified by the EPA that need to be filled in order to complete the focused risk assessment. (See "Guidance for Data Usability in Risk Assessment - OSWER Directive # 9285.7- 05 - October 1990.) Additionally, the data will be used in combination with the focused risk assessment to facilitate the implementation of any additional remedial measures that are deemed necessary for the Site through the Feasibility Study that follows.

c. Data Management Procedures

Information gathered during the supplemental Site characterization work will be consistently documented and adequately recorded by United Park in well-maintained field logs and laboratory reports. Field logs will be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports will document sample custody, analytical responsibility, analytical results, nonconformity events, corrective measures and/or data deficiencies, and adherence to prescribed protocols. United Park will provide EPA with analytical data within forty-five (45) days of each sampling activity, in an electronic format showing the location, medium, and results. United Park will notify EPA when all pertinent data to be used in the Remedial Investigation report has been provided to EPA.

d. Remedial Investigation Report Deliverable

After completing the supplemental field sampling and analysis, a draft RI Report will be prepared and submitted by United Park to EPA and UDEQ for review and approval. This report will be submitted to EPA within seventy-five (75) days of United Park's notification to EPA that all data has been provided. The draft RI report will contain a Site characterization summary that will provide EPA with a preliminary reference for developing the focused risk assessment. The Site characterization summary will also be used by United Park to assist in confirming that the measures implemented at the Site to date are adequate to support final closure of the Site, and in evaluating the development and screening of further remedial alternatives and the refinement and identification of ARARs. The draft RI report shall summarize and evaluate results of past and recent field activities to characterize the Site, sources of contamination and the fate and transport of contaminants. United Park will refer to the RI/FS Guidance for an outline of the report format and contents. Following receipt of comments by EPA and, United Park will prepare and submit a final RI report within thirty (30) days, which satisfactorily addresses EPA and UDEQ comments.

TASK 4 - TREATABILITY STUDIES

As described earlier in this SOW and in Section 7.0 of the Work Plan, United Park will develop, evaluate and recommend, as necessary, potential additional remedial alternatives to support a final closure of the Site that will be protective of human health and the environment, and consistent with the contemplated future land use of the Site. At this time, such additional remedial measures would not involve treatment of hazardous wastes or substances. Consequently, it is unlikely that treatability studies would need to be performed as part of the evaluation and selection of final additional remedial measures to support final closure of the Site. However, if new information comes to light as a result of United Park's focused RI/FS efforts, or

if circumstances change, then United Park will evaluate the need for and conduct, as necessary, treatability tests in accordance with the NCP and EPA's Model SOW and as approved by EPA. If such tests are necessary, the following deliverables will apply:

1. Identification of Candidate Technologies Memorandum.
2. Treatability Testing Statement of Work.
3. Treatability Testing Work Plan.
4. Treatability Study Sampling and Analysis Plan.
5. Treatability Study Site Health and Safety Plan.
6. Treatability Study Evaluation Report.

Because it is unclear whether or not treatability studies are necessary it is not appropriate to include timeframes at this time. These will be addressed when it is known whether or not treatability studies are necessary.

TASK 5 - DEVELOPMENT, SCREENING, AND ANALYSIS OF FURTHER REMEDIAL ALTERNATIVES

As described in Section 7.0 of the Focused RI/FS Work Plan and previously in Task 1.b of this SOW, United Park believes that final Site closure can be achieved without the implementation of further remedial measures. However, United Park recognizes that EPA has concerns about Site conditions that the agency believes must be addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, United Park agrees to further investigate the nature and extent of contamination at the Site to supplement the investigation efforts performed at the Site to date and confirm that the measures implemented at the Site to date are adequate to support final closure. United Park notes that it is currently considering long-term, non-residential land uses at the Site and the Property. While the Property outside the impoundment is already suitable for development, the Property is not currently being used for any productive purpose. United Park is considering developing the area outside of the actual impoundment for non-residential, recreational uses. United Park is also considering non-residential uses, consistent with the soil cover and any appropriate institutional controls, for the southern area of the tailings impoundment area itself.

Based on the findings of these additional investigation and evaluation efforts, United Park proposes to use the data derived from the Focused RI/FS (together with a focused risk assessment to be performed by EPA) to facilitate the determination of whether any further remedial measures are needed to support final Site closure. If necessary, as part of the focused feasibility study, United Park will develop appropriate remedial action objectives, and develop and evaluate potential additional remedial alternatives, to support a final closure of the Site that is protective of human health and the environment, taking into consideration the low-toxicity volume of the on-Site tailings materials, as well as remedial measures implemented at similar tailings impoundment sites throughout Utah and the Rocky Mountain States. If and to the extent further remedial measures are required, United Park believes that any appropriate final remedy for the Site should be consistent with and incorporate, to the maximum extent practicable, all elements of the existing Site closure, and with contemplated future land use of the Site.

United Park will develop and evaluate a range of appropriate further remedial alternatives to support final Site closure, concurrent with the RI Site characterization task. Based on EPA's focused risk assessment, United Park will review, and if necessary and appropriate for the Site: 1) modify the site-specific remedial action objectives; 2) develop general response actions for each medium of interest to satisfy the remedial action objectives; 3) identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives; 4) identify, screen and document technologies, if any, applicable to each general response action to eliminate those that cannot be implemented at the site; and 5) assemble and document further alternative remedial measures. Such remedial measures may include, for example, removal, treatment and containment of the on-Site tailings materials, as well as a "no-action" alternative. Within thirty (30) days of receipt of EPA's baseline risk assessment, United Park will submit a memorandum detailing Remedial Action Objectives.

United Park will conduct a detailed analysis of additional remedial alternatives to support final closure of the Site, which will consist of an analysis against a set of nine evaluation criteria to ensure that the selected additional remedial measures will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARS; will be cost-effective; will utilized permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element (if appropriate). The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARs; (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state (or support agency) acceptance; and (9) community acceptance. (Note: criteria 8 and 9 may not be complete until comments on

the proposed plan are received. State and community concerns expressed during the RI/FS process will be considered as they are submitted or otherwise expressed.)

Within ninety (90) days of EPA's approval of the Memorandum detailing the development, screening, and analysis of alternatives, United Park will submit a draft FS report to EPA for review and approval. Once United Park has addressed EPA's comments, the final FS report may be bound with the final RI report. This report, as ultimately adopted or amended by EPA, provides a basis for remedy selection by EPA and documents the development and analysis of further remedial alternatives to support final closure of the Site. United Park will refer to the RI/FS Guidance for an outline of the report format and the required report content, as appropriate for the Site.

REFERENCES FOR CITATION

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

The (revised) National Contingency Plan

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, " U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

"Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9835.3

"A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

"EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R.

"Data Quality Objectives for Remedial Response Activities, " U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.

"Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.

"Interim Guidelines and Specifications for Quality Assurance Project Plans," U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.

"Users Guide to the EPA Contract Laboratory," U.S. EPA, Sample Management Office, August 1982.

Interim Guidance with Applicable or Relevant and Appropriate Requirements,' U.S. EPA, OFFICE of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.

"CERCLA Compliance with Other Laws Manual," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (draft), OSWER Directive No. 9234.1-01 and -02.

"Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," U.S. EPA, Office of Emergency and Remedial Response, (draft), OSWER Directive No. 9283.1-2.

"Draft Guidance on Superfund Decision Documents," U.S. EPA, Office of Emergency and Remedial Response, March 1988, OSWER Directive No. 9355.-02

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual (Part A), EPA/540/1-89/002

"Risk Assessment Guidance for Superfund - Volume II Environmental Evaluation Manual," March 1989, EPA/540/1-89/ 001

"Guidance for Data Usability in Risk Assessment," October, 1990, EPA/540/G-90/008

"Performance of Risk Assessments in Remedial Investigation/Feasibility Studies (RI/FSs) Conducted by Potentially Responsible Parties (PRPs)," August 28, 1990, OSWER Directive No. 9835.15.

"Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions," April 22, 1991, OSWER Directive No. 9355.0-30.

"Health and Safety Requirements of Employed in Field Activities," U.S. EPA, Office of Emergency and Remedial Response, July 12, 1981, EPA Order No. 1440.2.

OSHA Regulations in 29 CFR 1910.120 (Federal Register 45654, December 19, 1986).

"Interim Guidance on Administrative Records for Selection of CERCLA Response Actions," U.S. EPA, Office of Waste Programs Enforcement, March 1, 1989, OSWER Directive No. 9833.3A.

"Community Relations in Superfund: A Handbook," U.S. EPA, Office of Emergency and Remedial Response, June 1988, OSWER Directive No. 9230.0#3B.

"Community Relations During Enforcement Activities And Development of the Administrative Record," U.S. EPA, Office of Programs Enforcement, November 1988, OSWER Directive No. 9836.0-1a.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

RECEIVED
EPA REGION 8
HEADQUARTERS

IN THE MATTER OF:)
)
RICHARDSON FLAT TAILINGS)
)
United Park City Mines Company)
Respondent)
)
)
Proceeding Under Sections 104, 122(a),)
and 122(d)(3) of the Comprehensive)
Environmental Response, Compensation,)
and Liability Act as amended)
(42 U.S.C. Sections 9604, 9622(a),)
9622(d)(3)).)
)

U.S. EPA Docket
No. CERCLA-8-2000-19

ADMINISTRATIVE ORDER ON CONSENT
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

I. INTRODUCTION

1. This Administrative Order on Consent ("Consent Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and United Park City Mines Company ("Respondent"). The Consent Order concerns the preparation of, performance of, and reimbursement for all associated costs incurred by EPA in connection with a focused remedial investigation and feasibility study ("RI/FS") for the Richardson Flat Tailings Site (the "Site"), located near Park City, Utah.

II. JURISDICTION

2. This Consent Order is issued under the authority vested in the President of the United States by Sections 104, 122(a) and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. Sections 9604, 9622(a), 9622(d)(3) (CERCLA). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987), and further delegated to the EPA Region 8 Director of the Superfund Remedial Response Program, Office of Ecosystem Protection and Remediation (the "Director") by EPA Delegation No. 14-14-C.

3. The Respondent agrees to undertake all actions required by the terms and conditions of this Consent Order. In any action by

EPA or the United States to enforce the terms of this Consent Order, Respondent consents to and agrees not to contest the authority or jurisdiction of the Director to issue or enforce this Consent Order, and agrees not to contest the validity of this Consent Order or its terms.

III. PARTIES BOUND

4. This Consent Order shall apply to and be binding upon EPA and shall be binding upon Respondent, its agents, successors, assigns, officers, directors and principals. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order. No change in the ownership or corporate status of the Respondent or of the facility or Site shall alter Respondent's responsibilities under this Consent Order.

5. The Respondent shall provide a copy of this Consent Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred. Respondent shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Consent Order, within 14 days after the effective date of this Consent Order or the date of retaining their services, whichever is later. Respondent shall condition any such contracts upon satisfactory compliance with this Consent Order. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Consent Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Consent Order.

IV. STATEMENT OF PURPOSE

6. In entering into this Consent Order, the objectives of EPA and the Respondent are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site or facility, by conducting a focused remedial investigation; (b) to determine and evaluate alternatives for remedial action (if any) to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site or facility, by conducting a focused feasibility study; and (c) to recover RI/FS response and oversight costs incurred by EPA with respect to this Consent Order.

7. The activities conducted under this Consent Order are subject to approval by EPA and shall provide all appropriate necessary information for the RI/FS, with the exception of the focused baseline risk assessment to be performed by EPA, and for a record of decision that is consistent with CERCLA and the National

Contingency Plan ("NCP"), 40 C.F.R. Part 300. The activities conducted under this Consent Order shall be conducted in compliance with all applicable EPA guidances, policies, and procedures.

V. FINDINGS OF FACT

8. The Richardson Flats Site (CERCLIS ID # UTD980952840) is located approximately three and one-half miles northeast of Park City, in Summit County, Utah. The Site is a former mine tailings impoundment and covers approximately 160 acres immediately southeast of the junction of U.S. Highway 40 and Utah Highway 248. The tailings pile is adjacent to Silver Creek, a tributary to the Weber River. Some wetlands are positioned between the tailings pile embankment and Silver Creek.

9. Tailings were first placed at the Site prior to 1950. Tailings disposal continued intermittently through 1982 with several modifications and enlargements of the pile occurring. Since 1982, the Site has been inactive, although the Respondent has taken various actions intended to mitigate any potential impacts on human health and the environment including fencing the Site and covering the tailings pile with clean soil.

10. Sampling conducted by EPA has revealed the presence of heavy metals, including arsenic, cadmium, lead, and zinc, in tailings at the Site, as well as in surface water within the south diversion ditch on the Site, and in some shallow ground water wells. These results are documented in various EPA investigations, including the "Analytical Results Report for Richardson Flat Tailings" dated October 25, 1985 and the "Final Report" regarding removal assessment dated February 19, 1993.

11. The primary contaminant migration pathways for the Site, include, but are not limited to: (1) release to surface water and discharge to Silver Creek; (2) release to ground water and discharge of that ground water to Silver Creek or local wells; and (3) direct contact with tailings, contaminated soils, or contaminated sediments.

12. The Site was originally proposed for inclusion on the National Priorities List ("NPL") on June 24, 1988. Due to scoring issues and comments received from Respondent and others during the public comment period, the Site was removed from NPL consideration in February 1991. Using the revised Hazard Ranking System (Update 12), the Site was re-proposed for the NPL on February 7, 1992. No final action has been taken with regard to this proposed listing.

13. The Respondent, United Park City Mines Company, is the owner of the Site.

VI. CONCLUSIONS OF LAW AND DETERMINATIONS

14. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. Section 9601(9).

15. Wastes and constituents thereof at the Site, identified in paragraph 10 are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. Section 9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA.

16. The presence of hazardous substances at the Site or the past, present or potential migration of hazardous substances currently located at or emanating from the Site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. Section 9601(22).

17. Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. Section 9601(21).

18. Respondent is a responsible party under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. Sections 9604, 9607 and 9622.

19. The actions required by this Consent Order are necessary to protect the public health or welfare or the environment, are in the public interest, 42 U.S.C. Section 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. Sections 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. Section 9622(a).

VII. NOTICE

20. By providing a copy of this Consent Order to the State, EPA is notifying the State of Utah that this Consent Order is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by the Consent Order.

VIII. WORK TO BE PERFORMED

21. All work performed under this Consent Order shall be under the direction and supervision of qualified personnel. The Respondent has notified EPA that it intends to use the following personnel in carrying out such work: Kerry C. Gee, Resource Management Consultants, Inc., under the direction of James Fricke, and HDR Engineering, Inc., under the direction of Kenneth Napp. EPA hereby approves Respondent's use of the foregoing personnel and consultants in performing the work called for herein. In the event that Respondent desires to use different or additional personnel during the course of the RI/FS, Respondent shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories

to be used in carrying out such work. The qualifications of any new or additional persons undertaking the work for Respondent shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Consent Order is contingent on Respondent's demonstration to EPA's satisfaction that Respondent is qualified to perform properly and promptly the actions set forth in this Consent Order. If EPA disapproves in writing of any person(s)' technical qualifications, Respondent shall notify EPA of the identity and qualifications of the replacement(s) within 30 days of the written notice. If EPA subsequently disapproves of the replacement(s), EPA reserves the right to terminate this Consent Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondent.

22. Respondent shall conduct activities and submit deliverables as provided by the attached Statement of Work for Focused Remedial Investigation/Feasibility Study (the "SOW") and Workplan (the "Workplan"), which are incorporated by reference, for the development of the RI/FS. All such work shall be conducted in accordance with CERCLA, the NCP, and EPA guidance including, but not limited to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05) and guidances referenced therein, and guidances referenced in the Workplan, as may be amended or modified by EPA. The general activities that Respondent is required to perform are identified in the SOW and are described more fully in the Workplan. The tasks that Respondent must perform are described more fully in the Workplan and guidances. Deliverables identified in the SOW and Workplan shall be submitted to EPA as provided therein. All work performed under this Consent Order shall be in accordance with the schedules therein, and in full accordance with the standards, specifications, and other requirements of the Workplan and sampling and analysis plan, as initially approved or modified by EPA, and as may be amended or modified by EPA from time to time. For the purpose of this Consent Order, day means calendar day unless otherwise noted in the Consent Order.

23. EPA reserves the right to comment on, modify and direct changes for all deliverables. At EPA's discretion, Respondent must fully correct all deficiencies and incorporate and integrate all information and comments supplied by EPA either in subsequent or resubmitted deliverables.

24. Respondent shall not proceed further with any subsequent activities or tasks until receiving EPA approval for the following deliverables: sampling and analysis plan, draft focused remedial investigation report, treatability testing work plan (if required) and sampling and analysis plan, and draft focused feasibility study report. While awaiting EPA approval on these deliverables, Respondent shall proceed with all other tasks and activities which

may be conducted independently of these deliverables, in accordance with the schedule set forth in this Consent Order.

25. Upon receipt of the draft focused FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed.

26. For all remaining deliverables not enumerated above in paragraph 22, Respondent shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Respondent from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.

27. In the event that Respondent amends or revises a report, plan or other submittal upon receipt of EPA comments, if EPA subsequently disapproves of the revised submittal, or if subsequent submittals do not fully reflect EPA's directions for changes, EPA retains the right to seek stipulated or statutory penalties; perform its own studies, complete the RI/FS (or any portion of the RI/FS) under CERCLA and the NCP, and seek reimbursement from the Respondent for its costs; and/or seek any other appropriate relief.

28. In the event that EPA takes over some of the tasks, but not the preparation of the RI/FS, Respondent shall incorporate and integrate information supplied by EPA into the final RI/FS report.

29. Neither failure of EPA to expressly approve or disapprove of Respondent's submissions within a specified time period(s), nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondent(s)' deliverables, Respondent is responsible for preparing deliverables acceptable to EPA.

30. Respondent shall, prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to EPA's Designated Project Coordinator of such shipment of hazardous substances. However, the notification of shipments shall not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.

(a) The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondent shall notify the receiving state of major changes in the shipment plan, such as a decision to

ship the hazardous substances to another facility within the same state, or to a facility in another state.

(b) The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the focused remedial investigation and feasibility study. Respondent shall provide all relevant information, including information under the categories noted in paragraph 30(a) above, on the off-site shipments, as soon as practical after the award of the contract and before the hazardous substances are actually shipped.

IX. EPA'S FOCUSED BASELINE RISK ASSESSMENT

31. EPA will perform the focused baseline risk assessment. The focused baseline risk assessment will be a streamlined human health/ecological risk assessment taking into account the existing conditions at the Site, the proposed future land use and existing information. Respondent shall support EPA in the effort by providing various information to EPA as outlined above. The major components of the focused baseline risk assessment include contaminant identification, exposure assessment, toxicity assessment, and human health and ecological risk characterization.

32. EPA will provide, after review of the Respondent's site characterization summary, sufficient information concerning the baseline risks such that the Respondent can begin drafting the focused feasibility study report and the Memorandum on Remedial Action Objectives. This information will normally be in the form of two or more focused baseline risk assessment memoranda prepared by EPA. One memorandum will generally include a list of the chemicals of concern for human health and ecological effects and the corresponding toxicity values. Another should list the current and potential future exposure scenarios, exposure assumptions, and exposure point concentrations that EPA plans to use in the focused baseline risk assessment. The public, including the Respondent, may comment on these memoranda. However, the Agency is obligated to respond only to significant comments that are submitted during the formal public comment period.

33. EPA will make good faith efforts to provide a draft focused baseline risk assessment to Respondent no later than ninety (90) days after EPA acceptance of the focused RI report as final. After EPA responds to any significant comments from the Respondent, EPA will release the focused baseline risk assessment to the public at the same time it releases the final RI report. Both reports will be put into the administrative record for the Site. EPA will respond to all significant comments on the memoranda or the focused baseline risk assessment that are resubmitted during the formal comment period in the Responsiveness Summary of the Record of Decision.

X. MODIFICATION OF THE WORKPLAN

34. If at any time during the RI/FS process, Respondent identifies a need for additional data, a memorandum documenting the need for additional data shall be submitted to the EPA Project Coordinator within 20 days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondent and whether it will be incorporated into reports and deliverables.

35. In the event of conditions posing an immediate threat to human health or welfare or the environment, Respondent shall notify EPA and the state immediately. In the event of unanticipated or changed circumstances at the Site, Respondent shall notify the EPA Project Coordinator by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In addition to the authorities in the NCP, in the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the Workplan, EPA shall modify or amend the Workplan in writing accordingly. Respondent shall perform the tasks set forth in the Workplan as modified or amended.

36. EPA may determine that, in addition to tasks defined in the initially approved Workplan, other additional work may be necessary to accomplish the objectives of the RI/FS as set forth in the Workplan for this RI/FS. EPA may require that the Respondent perform this work in addition to those required by the initially approved Workplan, including any approved modifications, if it determines that such actions are necessary for a complete RI/FS. Respondent shall confirm its willingness to perform the additional work in writing to EPA within seven (7) days of receipt of the EPA request or Respondent shall invoke dispute resolution. Subject to EPA resolution of any dispute, Respondent shall implement the additional tasks which EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the Workplan or written Workplan supplement. EPA reserves the right to conduct the additional work itself at any point, to seek reimbursement from Respondent, and/or to seek any other appropriate relief.

XI. QUALITY ASSURANCE

37. Respondent shall assure that work performed, samples taken and analyses conducted conform to the requirements of the Workplan, the QAPP and guidances identified therein. Respondent will assure that field personnel used by Respondent are properly trained in the use of field equipment and in chain of custody procedures.

XII. FINAL RI/FS, PROPOSED, PLAN, PUBLIC COMMENT,
RECORD OF DECISION, ADMINISTRATIVE RECORD

38. EPA retains the responsibility for the release to the public of the RI/FS report. EPA retains responsibility for the preparation and release to the public of the proposed plan and record of decision in accordance with CERCLA and the NCP.

39. EPA shall provide Respondent with the final RI/FS report, proposed plan and record of decision.

40. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondent must submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Respondent shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Respondent must additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondent and state, local or other federal authorities concerning selection of the response action. At EPA's discretion, Respondent may establish a community information repository at or near the Site, to house one copy of the administrative record.

XIII. PROGRESS REPORTS AND MEETINGS

41. Respondent shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

42. In addition to the deliverables set forth in this Consent Order, Respondent shall provide to EPA monthly progress reports by the 10th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall (1) describe the actions which have been taken to comply with this Consent Order during that month, (2) include all results of sampling and tests and all other data received by the Respondent, (3) describe work planned for the next two months with schedules relating such work to the overall project schedule for RI/FS completion and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XIV. SAMPLING, ACCESS, AND DATA AVAILABILITY/ADMISSIBILITY

43. All results of sampling, tests, modeling or other data (including raw data) generated by Respondent, or on Respondent's

behalf, during implementation of this Consent Order, shall be submitted to EPA in the subsequent monthly progress report as described in Section XII of this Order. EPA will make available to the Respondent validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

44. Respondent will orally notify EPA at least 15 days prior to conducting significant field events as described in the Workplan or sampling and analysis plan. At EPA's oral or written request, or the request of EPA's oversight assistant, Respondent shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) of any samples collected by the Respondent in implementing this Consent Order. All split samples of Respondent shall be analyzed by the methods identified in the QAPP.

45. At all reasonable times, EPA and its authorized representatives shall have the authority to enter and freely move about all property at the Site and off-site areas where work, if any, is being performed, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondent and its contractor pursuant to this order; reviewing the progress of the Respondent in carrying out the terms of this Consent Order; conducting tests as EPA or its authorized representatives deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to EPA by the Respondent. The Respondent shall allow these persons to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Consent Order, subject to a claim of privilege asserted in accordance with paragraph 46 below. Nothing herein shall be interpreted as limiting or affecting EPA's right of entry or inspection authority under federal law. All parties with access to the Site under this paragraph shall comply with all approved health and safety plans. Whenever reasonably possible, EPA shall notify Respondent orally or in writing at least seven (7) days prior to entering the Site to perform any of its inspection activities.

46. The Respondent may assert a claim of business confidentiality covering part or all of the information submitted to EPA pursuant to the terms of this Consent Order under 40 C.F.R. Section 2.20., provided such claim is allowed by section 104(e)(7) of CERCLA, 42 U.S.C. Section 9604(e)(7). This claim shall be asserted in the manner described by 40 C.F.R. Section 2.203(b) and substantiated at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA or the state without further notice to the Respondent. Respondent agrees not to assert confidentiality claims with respect to any data related to Site conditions, sampling, or monitoring. In addition, Respondent may assert that documents, records or other information

are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted. However, no documents, reports or other information created or generated pursuant to the requirements of this Consent Order shall be withheld on the grounds that they are privileged. Respondent shall retain all records and documents that they claim to be privileged until any such dispute has been resolved in Respondent's favor.

47. Except with regard to the objections already presented in comments filed by Respondent, in entering into this Order, Respondent waives any objections to any data gathered, generated, or evaluated under the terms of this Consent Order by EPA, the state, or Respondent in the performance or oversight of the work that has been verified according to the quality assurance/quality control (QA/QC) procedures required by the Consent Order or any EPA-approved work plans or sampling and analysis plans. If Respondent objects to any other data relating to the RI/FS, Respondent shall submit to EPA a report that identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within 15 days of the monthly progress report containing the data.

48. If the Site, or the off-site area that is to be used for access or is within the scope of the RI/FS, is owned in whole or in part by parties other than those bound by this Consent Order, Respondent will obtain, or use its best efforts to obtain, Site access agreements from the present owner(s) within sixty (60) days of the effective date of this Consent Order. Such agreements shall provide access for EPA, its contractors and oversight officials, the state and its contractors, and the Respondent or its authorized representatives, and such agreements shall specify that Respondent is not EPA's representative with respect to liability associated with site activities. Copies of such agreements shall be provided to EPA prior to Respondent's initiation of field activities. Respondent's best efforts shall include providing reasonable compensation to any off-site property owner. If access agreements are not obtained within the time referenced above, Respondent shall immediately notify EPA of its failure to obtain access. EPA may obtain access for the Respondent, perform those tasks or activities with EPA contractors, or terminate the Consent Order in the event that Respondent cannot obtain access agreements. In the event that EPA performs those tasks or activities with EPA contractors and does not terminate the Consent Order, Respondent shall perform all other activities not requiring access to that site, and shall reimburse EPA for all costs incurred in performing such activities. Respondent additionally shall

integrate the results of any such tasks undertaken by EPA into its reports and deliverables. Furthermore, Respondent agrees to indemnify the U.S. Government as specified in Section XXVI of this Order. Respondent also shall reimburse EPA for all costs and attorney fees incurred by the United States to obtain access for the Respondent pursuant to this paragraph.

XV. DESIGNATED PROJECT COORDINATORS

49. Documents including reports, approvals, disapprovals, and other correspondence which must be submitted under this Consent Order, shall be sent by certified mail, return receipt requested, to the following addressees or to any other addressees which the Respondent and EPA designate in writing:

(a) Three copies of documents to be submitted to EPA should be sent to:

Jim Christiansen
Richardson Flat Tailings Project
Coordinator,
Superfund Remedial Section, 8EPR-SR
US EPA, Region VIII,
999 18th Street, Denver, CO, 80202-2466.

(b) Two copies of documents to be submitted to the State should be sent to:

Muhammad A. Slam
State of Utah Department of Environmental Quality
Division of Environmental Response & Remediation
168 North 1950 West, 1st Floor
Salt Lake City, Utah 84116

(c) One copy of documents to be submitted to the Respondent should be sent to:

Kerry C. Gee
Vice President
United Park City Mines Company
P.O. Box 1450
Park City, Utah 84060

And

Kevin R. Murray
LeBoeuf, Lamb, Green & MacRae
136 South Main, Suite 1000
Salt Lake City, Utah 84101

50. On or before the effective date of this Consent Order, EPA and the Respondent shall each designate their own Project

Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, communications between the Respondent and EPA shall be directed to the Project Coordinator by mail, with copies to such other persons as EPA, the state, and Respondent may respectively designate. Communications include, but are not limited to, all documents, reports, approvals, and other correspondence submitted under this Consent Order.

51. EPA and the Respondent each have the right to change their respective Project Coordinator. The other party must be notified in writing at least 10 days prior to the change.

52. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's Project Coordinator shall have the authority consistent with the National Contingency Plan, to halt any work required by this Consent Order, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Consent Order shall not be cause for the stoppage or delay of work.

53. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). The oversight assistant may observe work and make inquiries in the absence of EPA, but is not authorized to modify the Workplan.

XVI. OTHER APPLICABLE LAWS

54. Respondent shall comply with all laws that are applicable when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, where such action is selected and carried out in compliance with Section 121 of CERCLA.

XVII. RECORD PRESERVATION

55. All records and documents in EPA's and Respondent's possession that relate in any way to the Site shall be preserved during the conduct of this Consent Order and for a minimum of 10 years after commencement of construction of any remedial action. The Respondent shall acquire and retain copies of all documents that relate to the Site and are in the possession of its employees, agents, accountants, contractors, or attorneys. After this 10 year period, the Respondent shall notify EPA at least 90 days before the documents are scheduled to be destroyed. If EPA requests that the documents be saved, the Respondent shall, at no cost to EPA, give EPA the documents or copies of the documents.

XVIII. DISPUTE RESOLUTION

56. Any disputes concerning activities or deliverables required under this Consent Order, excluding the baseline risk assessment, for which dispute resolution has been expressly provided for, shall be resolved as follows: If the Respondent objects to any EPA notice of disapproval or requirement made pursuant to this Consent Order, Respondent shall notify EPA's Project Coordinator in writing of its objections within 14 days of receipt of the disapproval notice or requirement. Respondent's written objections shall define the dispute, state the basis of Respondent's objections, and be sent certified mail, return receipt requested. EPA and the Respondent then have an additional 14 days to reach agreement. If an agreement is not reached within 14 days, Respondent may request a determination by the Director. The Director's determination is EPA's final decision. Respondent shall proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether Respondent agrees with the decision. If the Respondent does not agree to perform or does not actually perform the work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to conduct the work itself, to seek reimbursement from the Respondent, to seek enforcement of the decision, to seek stipulated penalties, and/or to seek any other appropriate relief.

57. Respondent is not relieved of its obligations to perform and conduct activities and submit deliverables on the schedule set forth in the Workplan, while a matter is pending in dispute resolution. The invocation of dispute resolution does not stay stipulated penalties under this Consent Order.

XIX. DELAY IN PERFORMANCE/STIPULATED PENALTIES

58. For each day that the Respondent fails to complete a deliverable in a timely manner or fails to produce a deliverable of acceptable quality, or otherwise fails to perform in accordance with the requirements of this Consent Order, Respondent shall be liable for stipulated penalties. EPA may, in its sole discretion, impose a lesser penalty than those set forth below for minor violations. Any reduction in the stipulated penalty imposed shall be solely at EPA's discretion and shall not be subject to dispute resolution. Penalties begin to accrue on the day that performance is due or a violation occurs, and extend through the period of correction. Where a revised submission by Respondent is required, stipulated penalties shall continue to accrue until a satisfactory deliverable is produced. EPA will provide written notice for violations that are not based on timeliness; nevertheless, penalties shall accrue from the day a violation commences. Payment shall be due within 30 days of receipt of a demand letter from EPA.

59. Respondent shall pay interest on the unpaid balance, which shall begin to accrue at the end of the 30-day period, at the rate established by the Department of Treasury pursuant to 30 U.S.C.

Section 3717. Respondent shall further pay a handling charge of 1 percent, to be assessed at the end of each 31 day period, and a 6 percent per annum penalty charge, to be assessed if the penalty is not paid in full within 90 days after it is due.

60. Respondent shall make all payments by forwarding a certified or cashier's check made payable to "EPA Hazardous Substance Superfund." Each check shall reference the name and address of the party making payment, the site name, the EPA Region and SSID NUMBER 08-94, and the EPA docket number for this action, and shall be sent to:

Regular mail:

Mellon Bank
EPA Region VIII
Attn: Superfund Accounting
Post Office Box 360859
Pittsburgh, Pennsylvania 15251-6859

Express Mail:

Mellon Bank
3 Mellon Bank Center
ROOM#153-2713
Pittsburgh, Pennsylvania 15259

or other such address as EPA may designate in writing or by wire transfer to:

ABA=021030004
TREAS NYC/CTR/
BNF=/AC-68011008

Wire transfers must be sent to the Federal Reserve Bank in New York.

61. At the time of payment, each Settling Party shall send notice that such payment has been made to:

Enforcement Specialist
Richardson Flat Tailings Site
U.S. EPA Region 8
Suite 300 (8ENF-T)
999 18th Street
Denver, CO 80202-2466

62. For the following major deliverables, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first seven days of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day; and \$2,000 per day per violation for all violations lasting beyond 30 days.

- 1) An original and any revised sampling and analysis plan.
- 2) An original and any revised focused remedial investigation report.
- 3) An original and any revised treatability testing work plan, if required.
- 4) An original and any revised treatability study sampling and analysis plan, if required.
- 5) An original and any revised focused feasibility study report.

63. For the following interim deliverables, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first week of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day of noncompliance; and \$2,000 per day per violation for all violations lasting beyond 30 days.

- 1) Technical memorandum on modeling of site characteristics, if required.
- 2) Summary of RI data,
- 3) Identification of candidate technologies memorandum.
- 4) Treatability testing statement of work, if required.
- 5) Treatability study evaluation report, if required.
- 6) Memorandum on remedial action objectives.
- 7) Memoranda on development, screening, and detailed comparative analysis of alternatives.

64. For the monthly progress reports, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first week of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day; and \$2,000 per day, per violation, for all violations lasting beyond 30 days.

65. Respondent may dispute EPA's right to the stated amount of penalties by invoking the dispute resolution procedures under Section XVIII herein. Penalties shall accrue but need not be paid during the dispute resolution period. If Respondent does not prevail upon resolution, all penalties shall be due to EPA within 30 days of resolution of the dispute. If Respondent prevails upon resolution, no penalties shall be paid.

66. In the event that EPA provides for corrections to be reflected in the next deliverable and does not require re-submission of that deliverable, stipulated penalties for that interim deliverable shall cease to accrue on the date of such decision by EPA.

67. The stipulated penalties provisions do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of the Respondent's failure to comply with this Consent Order, including but not limited to conduct of all or part of the RI/FS by EPA. Payment of stipulated penalties does not alter Respondent's obligation to complete performance under this Consent Order.

68. If Respondent submits any major or interim deliverable to EPA early or on time, EPA will make good faith efforts to provide formal comments no later than one calendar month from the due date of the deliverable.

XX. FORCE MAJEURE

69. "Force majeure", for purposes of this Consent Order, is defined as any event arising from causes entirely beyond the control of the Respondent and of any entity controlled by Respondent, including its contractors and subcontractors, that delays the timely performance of any obligation under this Consent Order notwithstanding Respondent's best efforts to avoid the delay. The requirement that the Respondent exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent practicable. Examples of events that are not force majeure events include, but are not limited to, increased costs or expenses of any work to be performed under this Consent Order or the financial difficulty of Respondent to perform such work.

70. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Order, whether or not caused by a force majeure event, Respondent shall notify by telephone the Remedial Project Manager or, in his or her absence, the Director, within 48 hours of when the Respondent knew or should have known that the event might cause a delay. Within five business days thereafter, Respondent shall provide in writing the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Respondent shall exercise best efforts to avoid or minimize any delay and any effects of a

delay. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure.

71. If EPA agrees that the delay or anticipated delay is attributable to force majeure, the time for performance of the obligations under this Consent Order that are directly affected by the force majeure event shall be extended by agreement of the parties, pursuant to Section XXVII of this Consent Order, for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation.

72. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or does not agree with Respondent on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in Section XVIII of this Consent Order. In any such proceeding, to qualify for a force majeure defense, Respondent shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, that Respondent did exercise or is exercising due diligence by using its best efforts to avoid and mitigate the effects of the delay, and that Respondent complied with the requirements of paragraph 70.

73. Should Respondent carry the burden set forth in paragraph 72, the delay at issue shall be deemed not to be a violation of the affected obligation of this Consent Order.

XXI. REIMBURSEMENT OF PAST COSTS

74. To date, EPA has incurred costs in responding to the release of hazardous substances at and from the Site (Past Costs). EPA and Respondent are in the process reviewing these Past Costs and will use their best efforts to resolve outstanding issues. The parties intend to embody any agreement regarding payment of Past Costs in a separate administrative order and to include to the extent possible other potentially responsible parties for the Site.

XXII. REIMBURSEMENT OF RI/FS RESPONSE AND OVERSIGHT COSTS

75. Following the issuance of this Consent Order, EPA shall submit to the Respondent on a periodic basis an accounting of all response costs including oversight costs incurred by the U.S. Government with respect to this RI/FS. Response costs may include, but are not limited to, costs incurred by the U.S. Government in overseeing Respondent's implementation of the requirements of this Consent Order and activities performed by the government as part of the RI/FS and community relations, including any costs incurred while

obtaining access. Costs shall include all direct and indirect costs, including, but not limited to, time and travel costs of EPA personnel and associated indirect costs, contractor costs, cooperative agreement costs, compliance monitoring, including the collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that may arise as a result of this Consent Order, review and approval or disapproval of reports, costs of performing the focused baseline risk assessment, and costs of redoing any of Respondent's tasks. Any necessary summaries, including, but not limited to EPA's SCORE\$ Report or such other summary as certified by EPA, shall serve as basis for payment demands.

76. Respondent shall, within 60 days of receipt of each accounting, remit a certified or cashier's check for the amount of all uncontested costs. Interest shall accrue from the later of: the date payment of a specified amount is demanded in writing; or the date of the expenditure. The interest rate is the rate of interest on investments for the Hazardous Substances Superfund in Section 107(a) of CERCLA. Respondent reserves and retains the right to pursue claims against other "persons" as defined in Section 101(21) of CERCLA for contribution or indemnity for these costs.

77. Respondent shall make payment by forwarding a certified or cashier's check made payable to "EPA Hazardous Substance Superfund." Each check shall reference the name and address of the party making payment, the site name, the EPA Region and SSID NUMBER 08-94, and the EPA docket number for this action, and shall be sent to:

Regular mail:

Mellon Bank
EPA Region VIII
Attn: Superfund Accounting
Post Office Box 360859
Pittsburgh, Pennsylvania 15251-6859

Express Mail:

Mellon Bank
3 Mellon Bank Center
ROOM#153-2713
Pittsburgh, Pennsylvania 15259

or other such address as EPA may designate in writing or by wire transfer to:

ABA=021030004
TREAS NYC/CTR/
BNF=/AC-68011008

Wire transfers must be sent to the Federal Reserve Bank in New York.

78. At the time of payment, Respondent shall send notice that such payment has been made to:

Enforcement Specialist,
Richardson Flat Tailings Site
U.S. EPA Region 8
Suite 300 (8ENF-T)
999 18th Street
Denver, CO 80202-2466

79. Copies of the transmittal letter and check should be sent simultaneously to the EPA Project Coordinator.

80. If Respondent disputes any costs due to accounting errors, the inclusion of costs outside the scope of this Consent Order, or that such costs are inconsistent with the NCP, Respondent shall identify any contested costs and the basis of its objection. All undisputed costs shall be remitted by Respondent in accordance with the schedule set forth above. Disputed costs shall be paid by Respondent into an escrow account while the dispute is pending. Respondent bears the burden of establishing an EPA accounting error, the inclusion of costs outside the scope of this Consent Order, or inconsistency with the NCP.

XXIII. RESERVATIONS OF RIGHTS AND REIMBURSEMENT OF OTHER COSTS

81. EPA reserves the right to bring an action against the Respondent under section 107 of CERCLA for recovery of all response costs including oversight costs, incurred by the United States at the Site that are not reimbursed by the Respondent, any costs incurred in the event that EPA performs the RI/FS or any part thereof, and any future costs incurred by the United States in connection with response activities conducted under CERCLA at this Site.

82. EPA reserves the right to bring an action against Respondent to enforce the RI/FS response and oversight cost reimbursement requirements of this Consent Order, to collect stipulated penalties assessed pursuant to Section XIX of this Consent Order, and to seek penalties pursuant to Section 109 of CERCLA, 42 U.S.C. Section 9609.

83. Except as expressly provided in this Consent Order, each party reserves all rights and defenses it may have. Respondent specifically reserves its rights and defenses regarding liability or responsibility in any proceedings regarding this Site other than proceedings to enforce this Consent Order. Nothing in this Consent Order shall affect EPA's removal authority or EPA's response or enforcement authorities including, but not limited to, the right to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages.

84. Following satisfaction of the requirements of this Consent Order, Respondent shall have resolved its liability to EPA for the work performed by Respondent pursuant to this Consent Order. Respondent is not released from liability, if any, for any response actions taken beyond the scope of this Consent Order regarding removals, other operable units, remedial design/remedial action of this Site, Past Costs, or activities arising pursuant to Section 121(c) of CERCLA.

XXIV. DISCLAIMER

85. By signing this Consent Order and taking actions under this Consent Order, the Respondent does not necessarily agree with EPA's Findings of Fact and Conclusions of Law. Furthermore, the participation of the Respondent in this Consent Order, as well as EPA's findings of Fact and Conclusions of Law set forth in this Consent Order, shall not be considered an admission of liability and is not admissible in evidence against the Respondent in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to it. Respondent retains its rights to assert claims against other potentially responsible parties at the Site. However, the Respondent agrees not to contest the validity or terms of this Consent Order, or the procedures underlying or relating to it in any action brought by the United States, including EPA, to enforce its terms.

XXV. OTHER CLAIMS

86. In entering into this Consent Order, Respondent waives any right to seek reimbursement under section 106(b) of CERCLA. Respondent also waives any right to present a claim under section 111 or 112 of CERCLA. This Consent Order does not constitute any decision on preauthorization of funds under section 111(a)(2) of CERCLA. Respondent further waives all other statutory and common law claims against EPA, including, but not limited to, contribution and counterclaims, relating to or arising out of conduct of the RI/FS.

87. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership, subsidiary or corporation not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site. Nothing contained in this Consent Order shall affect any right, claim, interest or cause of action of any party hereto with respect to third parties.

88. Respondent shall bear its own costs and attorneys fees.

89. The parties agree that the Respondent is entitled, upon EPA approval of Respondent's certification that all requirements of this Consent have been satisfied, to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2) for matters addressed in this Consent Order. The "matters addressed" in this Consent Order include the performance of a RI/FS for the tailings impoundment at this Site. The "matters addressed" in this Consent Order do not include payment of Past Costs, the performance of any remedial action or cleanup action determined to be necessary at the tailings impoundment, or payment of any response costs resulting therefrom.

XXVI. INSURANCE AND INDEMNIFICATION

90. (a) Prior to commencement of any work under this Consent Order, Respondent shall secure or ensure that its contractors or subcontractors secure, and shall maintain in force for the duration of this Consent Order, Comprehensive General Liability ("CGL") and automobile insurance, with limits of \$ 1.0 million dollars, combined single limit, naming as insured the United States. The CGL insurance shall include Contractual Liability Insurance in the amount of \$1.0 million per occurrence, and Umbrella Liability Insurance in the amount of \$2 million per occurrence.

(b) Respondent shall also secure or ensure that its contractors or subcontractors also secure, and maintain in force for the duration of this Consent Order the following:

- i. Professional Errors and Omissions Insurance in the amount of \$1,000,000.00 per occurrence; and
- ii. Pollution Liability Insurance in the amount of \$1,000,000.00 per occurrence, covering as appropriate both general liability and professional liability arising from pollution conditions.

(c) For the duration of this Order, Respondent shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's compensation insurance for all persons performing work on behalf of the Respondent, in furtherance of this Consent Order.

(d) If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then with respect to that contractor or subcontractor Respondent need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

(e) Prior to commencement of any work under this Consent Order, and annually thereafter on the anniversary of the effective date of this Consent Order, Respondent shall provide to EPA certificates of such insurance and a copy of each insurance policy.

91. At least 7 days prior to commencing any work under this Consent Order, Respondent shall certify to EPA that the required insurance has been obtained by that contractor.

92. The Respondent agrees to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims or causes of action arising from or on account of acts or omissions of Respondent, its employees, agents, servants, receivers, successors, or assignees, or any persons including, but not limited to, firms, corporations, subsidiaries and contractors, in carrying out activities under this Consent Order. The United States Government or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Respondent in carrying out activities under this Consent Order.

XXVII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

93. The effective date of this Consent Order shall be the date it is signed by EPA.

94. This Consent Order may be amended by mutual agreement of EPA and Respondent. Amendments shall be in writing. Project Coordinators do not have the authority to sign amendments to the Consent Order.

95. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by the Respondent will be construed as relieving the Respondent of its obligation to obtain such formal approval as may be required by this Consent Order. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules and attachments required by this Consent Order are, upon approval by EPA, incorporated into this Consent Order.

XXVIII. TERMINATION AND SATISFACTION

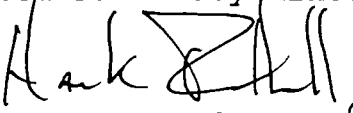
96. This Consent Order shall terminate when the Respondent demonstrates in writing and certifies to the satisfaction of EPA that all activities required under this Consent Order, including any additional work, payment of past costs, response and oversight costs, and any stipulated penalties demanded by EPA, have been performed and EPA has approved the certification. This notice shall not, however, terminate Respondent's obligation to comply with Sections XVII, XXIII, and XXV of this Consent Order.

97. The certification referred to in the preceding paragraph shall be signed by a responsible official representing the Respondent. The representative shall make the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate, and complete." For purposes of this Consent Order, a responsible official is a corporate official who is in charge of a principal business function.

[SEE NEXT PAGE FOR SIGNATURES]

AGREED TO:

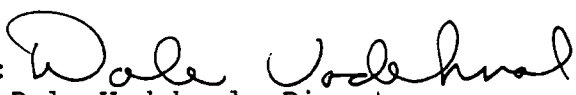
United Park City Mines

BY:  President
(Respondent) Title

DATE: 9/27/00

AGREED TO AND ORDERED:

U.S. Environmental Protection Agency Region 8

BY: 
Dale Vodehnal, Director
Superfund Remedial Response Program
Office of Ecosystem Protection and Remediation

DATE: 9/28/2000

STATEMENT OF WORK
FOR
FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
RICHARDSON FLAT TAILINGS SITE
SUMMIT COUNTY, UTAH
UT980952840

INTRODUCTION

United Park City Mines Company ("United Park") submits this Statement of Work ("SOW") to perform a focused remedial investigation/feasibility study at the Richardson Flat Tailings Site, located in Summit County, Utah (the "Site"). In support of this SOW, United Park has prepared a Focused Remedial Investigation/Feasibility Study Work Plan (the "Focused RI/FS Work Plan"), which is attached hereto as Exhibit A and incorporated by reference to this SOW. At the request of United States Environmental Protection Agency ("EPA") Region 8, this SOW has been prepared based on and in conformance with EPA's July 2, 1991 Model Statement of Work for PRP-Conducted Remedial Investigations and Feasibility Studies (EPA's "Model SOW"). This work is being conducted in full cooperation with both the EPA and the Utah Department of Environmental Quality (UDEQ).

As described in Section 1.0 of the Focused RI/FS Work Plan, United Park is the current owner of a large parcel of property (the "Property"), comprising approximately 700 acres, located in Summit County, Utah. Figure 1.0 of the Focused RI/FS Work Plan shows the general geographic location of the Property. A historic mine tailings impoundment, consisting of a large, geometrically closed basin formed by an earth embankment and a series of perimeter containment dikes, covers approximately 160 acres of the Property and is sometimes referred to as "Richardson Flat" or simply the "Site." The tailings impoundment resulted from decades of mining and milling silver-laden ore in the area around Park City known as the Park City Mining District. The Site is depicted in Figure 2.0 of the Focused RI/FS Work Plan.

The Site has remained unused since mining and milling operations ceased in 1982. Over the past fifteen years, EPA Region 8, the Utah Department of Environmental Quality ("UDEQ") and United Park have been investigating the Site in order to characterize the Site and determine potential adverse impacts to human health and the environment associated with the Site. At the same time, United Park has been implementing a series of remedial measures at the Site intended to mitigate any potential adverse impacts on human health and the environment.

The objectives of this focused remedial investigation/ feasibility study ("RI/FS") are to further investigate the nature and extent of contamination at the Site, to supplement the investigation efforts performed at the Site to date, to collect sufficient data to support EPA's risk assessment and analysis, to confirm that the measures implemented at the Site to date are adequate to support final closure of the Site and, if necessary, develop and evaluate potential additional remedial alternatives to support final Site closure. EPA will evaluate whether current Site conditions are protective of human health and the environment, and if necessary, whether further remedial measures will provide additional protection. The focused RI and FS are interactive and may be conducted concurrently so that the additional data collected in the focused RI influences the development of additional remedial alternatives in the FS, which in turn affects the data needs and the scope of treatability studies, if any are required.

United Park will conduct this focused RI/FS (except for the focused risk assessment component and any community involvement activities which will be conducted by the EPA) and will produce a draft RI/FS report that are in accordance with this SOW, and to the extent appropriate for the Site, the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988), and any other guidance that EPA uses in conducting a RI/FS (a list of the primary guidance is attached), as well as any additional requirements in the administrative order. United Park will furnish all necessary personnel, materials, and services needed, or incidental to, performing the focused RI/FS, except as otherwise specified in the administrative order.

At the completion of the focused RI/FS, EPA and UDEQ will be responsible for the selection of a site remedy and will document this selection in a Record of Decision (ROD). The remedial action alternative selected by EPA and UDEQ will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element, as appropriate for the Site. The final focused RI/FS report, as adopted by EPA and UDEQ and EPA's focused risk assessment will, with the administrative record, form the basis for the selection of the Site's final closure remedy and will provide the information necessary to support the development of the ROD.

As specified in CERCLA Section 104(a)(1), as amended by SARA, EPA will provide oversight of United Park's activities throughout the focused RI/FS. United Park will support EPA's initiation and conduct of activities related to the implementation of oversight activities.

TASK 1 - SCOPING

As described in Section 3 of the Focused RI/FS Work Plan, since the 1970s, numerous environmental investigations have been conducted relating to the Site. The reports and data from these prior investigations are very useful in determining the scope of additional investigative activities needed to bring final closure to the Site. From 1985 to 1988 and from 1992 to 1993, the EPA conducted and reported on investigations at the Site. Based on previous and current environmental studies and existing Site conditions, United Park has developed a conceptual model of the Site. As described in Section 4 of the Focused RI/FS Work Plan, the Preliminary Site Model will be used to scope and evaluate the need for supplemental remedial investigation work (as described in Section 5 of the Focused RI/FS Work Plan) to assist in the development of further remedial measures to support final Site closure. United Park will develop a Preliminary Site Model in coordination with EPA and UDEQ.

As described in the Focused RI/FS Work Plan, the Site is similar in construction and characteristics to other tailings impoundments found throughout Utah and other Rocky Mountain States. The tailings on this Site are non-reactive and were derived from ore bodies contained in carbonate host rocks. Soil, surface water, and groundwater media will be addressed in both the additional investigative work and in the evaluation of further remedial measures as part of the RI/FS work to be performed pursuant to this SOW. Recent and past investigations show that the tailings are underlain by native high-clay-content soils, sitting within an enclosure constituting a large, geometrically closed impoundment, covered with a vegetated soil cover. There is a surface water diversion ditch system that surrounds the impounded tailings. Because the characteristics of the Site are similar to other tailings impoundments in the Rocky Mountain region, much is known about such sites generally and about the effectiveness of such an impoundment's construction. Such information will also be very useful in determining the scope of additional investigative activities needed to bring final closure to the Site.

When scoping the specific aspects of a project, United Park will meet with EPA and UDEQ to discuss all project planning decisions and special

concerns associated with the Site. As a function of the project planning process, United Park will perform the activities described below.

a. Site Background and Site Visit

According to EPA's Model SOW, the respondent will gather and analyze the existing site background information and will conduct a site visit to assist in planning the scope of the RI/FS. The respondent will also collect and analyze existing data and document the need for additional data. Before planning RI/FS activities, all existing site data will be thoroughly compiled and reviewed by the respondent. Specifically, this will include presently available data relating to the varieties and quantities of hazardous substances at the site, and past disposal practices. This will also include results from any previous sampling events that may have been conducted. This information will be utilized in determining additional data needed to characterize the site, better define potential applicable or relevant and appropriate requirements (ARARs), and develop a range of preliminarily identified remedial alternatives.

According to EPA's Model SOW, the respondent will also conduct a site visit during the project scoping phase to assist in developing a conceptual understanding of sources and areas of contamination, as well as potential exposure pathways and receptors at the site. This information will be utilized to better scope the project and to determine the extent of additional data necessary to characterize the site, better define potential ARARs, and narrow the range of preliminarily identified remedial alternatives.

Consistent with EPA's Model SOW, United Park has gathered and analyzed the existing Site background information and has conducted numerous Site visits to assist in scoping its focused RI/FS. The results of these efforts are reported in Sections 2, 3 and 4 of the Focused RI/FS Work Plan. This information was utilized in determining additional data needed to characterize the Site, and will assist to better define potential ARARs and develop a range of preliminarily identified additional remedial alternatives. The results of these efforts are reported in Sections 5 and 7 of the Focused RI/FS Work Plan. In addition, United Park has conducted site visits with personnel from the EPA and UDEQ. The Site work completed from 1985 to 1993 by EPA and UDEQ has provided a great deal of background information on the Site. There is a good deal of institutional knowledge about the Site.

b. Project Planning

According to EPA's Model SOW, once the respondent has collected and analyzed existing data and conducted a site visit, the specific project scope will be planned. Project planning activities include those tasks described below, as well as identifying data needs, developing a work plan, designing a data collection program, and identifying health and safety protocols.

As described in the Focused RI/FS Work Plan, United Park has been implementing a series of remedial measures at the Site intended to mitigate any potential adverse impacts on human health and the environment.

As the result of previous Site operations and United Park's remedial efforts, United Park believes that key elements are already in place to support final Site closure. These closure elements include:

- Installation of multiple monitoring wells to monitor groundwater conditions in and around the Site
- Construction of a large, earth embankment and a series of containment dikes to contain the tailings
- Construction of a diversion ditch system surrounding the impoundment to collect and redirect surface and ground water
- Placement of a vegetated clay soil cover to isolate the tailings, to prevent tailings from becoming wind-borne, and to minimize the infiltration of water to the tailings
- Installation of a security fence to limit Site access

Based on the data collected from and the remedial measures that have already been implemented at the Site to date, and in consideration of remedial measures implemented at similar tailings impoundment sites throughout Utah and other Rocky Mountain States, United Park believes that final Site closure can be achieved without the implementation of further remedial measures.

However, United Park recognizes that EPA has concerns about Site conditions that the agency believes must be addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, United Park agrees to further investigate the nature and extent of contamination at the Site to supplement the investigation efforts performed at the Site to date and confirm that the measures implemented at the Site to date are adequate to support final closure of the

Site. If necessary, based on the findings of these efforts, United Park will also develop and evaluate potential additional remedial alternatives to support a final closure of the Site that is protective of human health and the environment, and consistent with contemplated future land use of the Site. United Park proposes to use the data derived from the Focused RI/FS (together with a focused risk assessment to be performed by EPA) to determine whether any further remedial measures are needed to support final Site closure. If and to the extent further remedial measures are required, United Park believes that any appropriate final remedy for the Site should be consistent with and incorporate, to the maximum extent practicable, all elements of the existing Site closure.

According to EPA's Model SOW, if remedial actions involving treatment have been identified by the respondent or EPA, treatability studies will be required except where the respondent can demonstrate to EPA's satisfaction that they are not needed. Where treatability studies are needed, initial treatability testing activities (such as research and study design) will be planned to occur concurrently with site characterization activities.

As previously described in this SOW and in the Focused RI/FS Work Plan, United Park will develop and evaluate potential additional remedial alternatives to support a final closure of the Site that is protective of human health and the environment, and consistent with contemplated future land use of the Site. As described in Section 7.0 of the Focused RI/FS Work Plan, a preliminary list of such additional remedial measures may include:

- Improving and maintaining the main embankment stability and integrity
- Improving and maintaining the soil cover
- Improving and maintaining the surface drainage
- Improving and maintaining the diversion ditches
- Excavating tailings located outside of the impoundment, placing the same within the impoundment, and placement of additional cover
- Establishing appropriate institutional controls to prevent unacceptable exposure risks

At this time, such preliminary additional remedial measures would not involve treatment of hazardous wastes or substances. Consequently, it is unlikely that treatability studies would need to be performed as part of the evaluation and selection of final additional remedial measures to support final closure of the Site. However, if new information comes to light as a result of

United Park's focused RI/FS efforts, or if circumstances change, then United Park will evaluate the need for and conduct, as necessary, treatability tests in accordance with the NCP and as approved by EPA.

According to EPA's Model SOW, the respondent will conduct a preliminary identification of potential state and federal ARARs (chemical-specific, location-specific and action-specific) to assist in the refinement of remedial action objectives, and the initial identification of further remedial alternatives and ARARs associated with particular actions. ARARs identification will continue as site conditions, contaminants, and remedial action alternatives are better defined.

As described in Section 7.0 of the Focused RI/FS Work Plan, evaluation of any further remedial alternatives to support the final Site closure will include an assessment of the feasibility and overall effectiveness of such measures based on the requirements of CERCLA and the NCP. This will include a focused risk assessment (to be performed by EPA) that is based on possible future land use scenarios. At the outset of the focused feasibility study, ARARs for the final Site closure will be preliminarily identified. Since the range of possible future land uses will be set out early in the process, the proposed ARARs will be focused on a narrow range of remedial measures to support final Site closure. ARARs identification will continue as Site conditions, contaminants, and remedial action alternatives are better defined.

c. Scoping Deliverables -- Focused RI/FS Work Plan, Sampling and Analysis Plan, and Health and Safety Plan.

The Focused RI/FS Work Plan is attached to this SOW and will be deemed approved upon EPA's signature of the AOC. The Sampling and Analysis Plan, and Health and Safety Plan will be submitted to the agencies within 60 days of EPA's signing of the AOC.

According to EPA's Model SOW, at the conclusion of the project planning phase, the respondent will submit a RI/FS work plan, a sampling and analysis plan ("SAP"), and a site health and safety plan ("HASP"). The SAP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP). The FSP will define the sampling and data-gathering methods that will be used on the project. The QAPP will describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired data quality objectives ("DQOs"). The HASP will be prepared in conformance with the respondent's

health and safety program, and in compliance with OSHA regulations and protocols. The RI/FS work plan and SAP must be reviewed and approved by EPA prior to the initiation of field activities.

As previously indicated in this SOW, United Park has prepared a Focused RI/FS Work Plan, attached hereto as Exhibit A. United Park will also prepare a SAP (which includes a FSP and QAPP) and HASP prior to conducting any supplemental field work at the Site. Consistent with EPA's Model SOW, the Focused RI/FS Work Plan and SAP will be reviewed and approved by EPA prior to the initiation of field activities.

TASK 2 - COMMUNITY RELATIONS

The development and implementation of community relations activities are the responsibility of EPA and UDEQ. Although implementation of the community relations plan is the responsibility of EPA and UDEQ, United Park may assist by providing information regarding the Site's history, participating in public meetings, or by assisting in the preparation of fact sheets for distribution to the general public. United Park may establish a community information repository, at or near the Site, to house one copy of the administrative record. The extent of United Park's involvement in community relations activities is left to the discretion of the agencies. United Park's community relations responsibilities, if any, will be specified in the community relations plan. All community relations activities conducted by United Park will be subject to oversight by EPA.

TASK 3 - SITE CHARACTERIZATION

a. Field Investigation

During this phase, the Focused RI/FS Work Plan, SAP, and HASP are implemented. As set forth in Section 5 of the Focused RI/FS Work Plan, the supplemental field investigation will include the gathering of additional data to further define site physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. These activities will be performed by United Park in accordance with the Focused RI/FS Work Plan and SAP. United Park will initiate field support activities following approval of the Focused RI/FS Work Plan and SAP. Field support activities may include obtaining access to the site, scheduling, and procuring equipment, office space, laboratory services, and/or contractors, as appropriate. United Park will notify EPA at least two weeks prior to initiating field support activities so that EPA may adequately schedule oversight tasks.

United Park will also notify EPA in writing upon completion of field support activities.

b. Data Analysis

In accordance with the Focused RI/FS Work Plan, United Park will analyze and evaluate the existing and any newly-collected data to describe: (1) site physical and biological characteristics, (2) contaminant source characteristics, (3) nature and extent of contamination and (4) contaminant fate and transport. The RI data will be presented in a format (i.e., computer disc or equivalent) to facilitate EPA's preparation of the focused risk assessment. United Park shall agree to discuss and then collect any data gaps identified by the EPA that need to be filled in order to complete the focused risk assessment. (See "Guidance for Data Usability in Risk Assessment - OSWER Directive # 9285.7-05 - October 1990.) Additionally, the data will be used in combination with the focused risk assessment to facilitate the implementation of any additional remedial measures that are deemed necessary for the Site through the Feasibility Study that follows.

c. Data Management Procedures

Information gathered during the supplemental Site characterization work will be consistently documented and adequately recorded by United Park in well-maintained field logs and laboratory reports. Field logs will be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports will document sample custody, analytical responsibility, analytical results, nonconformity events, corrective measures and/or data deficiencies, and adherence to prescribed protocols.

d. Remedial Investigation Report Deliverable

After completing the supplemental field sampling and analysis, a draft RI Report will be prepared and submitted by United Park to EPA and UDEQ for review and approval. The draft RI report will contain a Site characterization summary that will provide EPA with a preliminary reference for developing the focused risk assessment. The Site characterization summary will also be used by United Park to assist in confirming that the measures implemented at the Site to date are adequate to support final closure of the Site, and in evaluating the development and screening of further remedial alternatives and the refinement and identification of ARARs. The draft RI report shall summarize and evaluate results of past and recent field activities

to characterize the Site, sources of contamination and the fate and transport of contaminants. United Park will refer to the RI/FS Guidance for an outline of the report format and contents. Following comments by EPA and UDEQ, United Park will prepare a final RI report, which satisfactorily addresses EPA and UDEQ comments.

TASK 4 - TREATABILITY STUDIES

As described earlier in this SOW and in Section 7.0 of the Work Plan, United Park will develop, evaluate and recommend, as necessary, potential additional remedial alternatives to support a final closure of the Site that will be protective of human health and the environment, and consistent with the contemplated future land use of the Site. At this time, such additional remedial measures would not involve treatment of hazardous wastes or substances. Consequently, it is unlikely that treatability studies would need to be performed as part of the evaluation and selection of final additional remedial measures to support final closure of the Site. However, if new information comes to light as a result of United Park's focused RI/FS efforts, or if circumstances change, then United Park will evaluate the need for and conduct, as necessary, treatability tests in accordance with the NCP and EPA's Model SOW and as approved by EPA.

TASK 5 - DEVELOPMENT AND ANALYSIS OF FURTHER REMEDIAL ALTERNATIVES

As described in Section 7.0 of the Focused RI/FS Work Plan and previously in Task 1.b of this SOW, United Park believes that final Site closure can be achieved without the implementation of further remedial measures. However, United Park recognizes that EPA has concerns about Site conditions that the agency believes must be addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, United Park agrees to further investigate the nature and extent of contamination at the Site to supplement the investigation efforts performed at the Site to date and confirm that the measures implemented at the Site to date are adequate to support final closure. United Park notes that it is currently considering long-term, non-residential land uses at the Site and the Property. While the Property outside the impoundment is already suitable for development, the Property is not currently being used for any productive purpose. United Park is considering developing the area outside of the actual impoundment for non-residential, recreational uses. United Park is also considering non-residential uses, consistent with the soil cover and any appropriate institutional controls, for the southern area of the tailings impoundment area itself.

Based on the findings of these additional investigation and evaluation efforts, United Park proposes to use the data derived from the Focused RI/FS (together with a focused risk assessment to be performed by EPA) to facilitate the determination of whether any further remedial measures are needed to support final Site closure. If necessary, as part of the focused feasibility study, United Park will develop appropriate remedial action objectives, and develop and evaluate potential additional remedial alternatives, to support a final closure of the Site that is protective of human health and the environment, taking into consideration the low-toxicity volume of the on-Site tailings materials, as well as remedial measures implemented at similar tailings impoundment sites throughout Utah and the Rocky Mountain States. If and to the extent further remedial measures are required, United Park believes that any appropriate final remedy for the Site should be consistent with and incorporate, to the maximum extent practicable, all elements of the existing Site closure, and with contemplated future land use of the Site.

United Park will develop and evaluate a range of appropriate further remedial alternatives to support final Site closure, concurrent with the RI Site characterization task. Based on EPA's focused risk assessment, United Park will review, and if necessary and appropriate for the Site: 1) modify the site-specific remedial action objectives; 2) develop general response actions for each medium of interest to satisfy the remedial action objectives; 3) identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives; 4) identify, screen and document technologies, if any, applicable to each general response action to eliminate those that cannot be implemented at the site; and 5) assemble and document further alternative remedial measures. Such remedial measures may include, for example, removal, treatment and containment of the on-Site tailings materials, as well as a "no-action" alternative.

United Park will conduct a detailed analysis of additional remedial alternatives to support final closure of the Site, which will consist of an analysis against a set of nine evaluation criteria to ensure that the selected additional remedial measures will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARS; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element (if appropriate). The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARS;

(3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state (or support agency) acceptance; and (9) community acceptance. (Note: criteria 8 and 9 are considered after the focused RI/FS report has been released to the general public.)

United Park will submit a draft FS report to EPA for review and approval. Once United Park has addressed EPA's comments, the final FS report may be bound with the final RI report. This report, as ultimately adopted or amended by EPA, provides a basis for remedy selection by EPA and documents the development and analysis of further remedial alternatives to support final closure of the Site. United Park will refer to the RI/FS Guidance for an outline of the report format and the required report content, as appropriate for the Site.

REFERENCES FOR CITATION

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

The (revised) National Contingency Plan

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

"Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9355.3

"A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

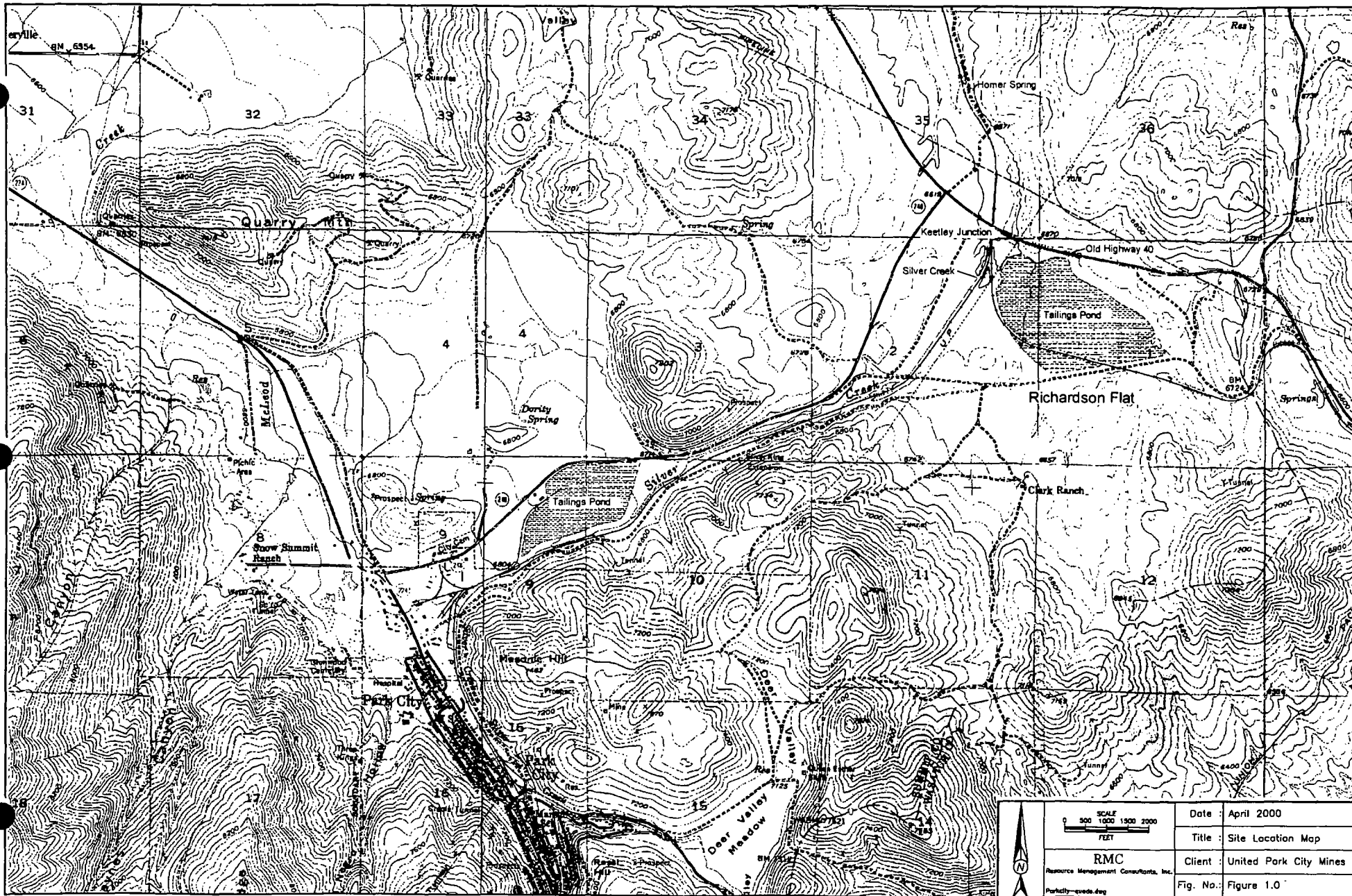
"EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R.


"Data Quality Objectives for Remedial Response Activities," U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9355.0-7B.

"Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.

"Interim Guidelines and Specifications for Quality Assurance Project Plans," U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.

"Users Guide to the EPA Contract Laboratory," U.S. EPA, Sample Management Office, August 1982.



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	RMC	Title : Site Location Map
	Resource Management Consultants, Inc.	Client : United Park City Mines
	ParkCity-quads.dwg	Fig. No.: Figure 1.0

STATEMENT OF WORK

FOR

FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY

**RICHARDSON FLAT TAILINGS SITE
SUMMIT COUNTY, UTAH
UT980952840**

WITH ATTACHED RI/FS WORK PLAN

Submitted by:

**United Park City Mines Corporation
PO Box 1450
Park City UT 84060
Phone: (435) 649-8011
Fax: (435) 649-8035**

May 25, 2000

**FOCUSED REMEDIAL
INVESTIGATION/FEASIBILITY STUDY
WORK PLAN**

**RICHARDSON FLAT TAILINGS SITE
SUMMIT COUNTY, UTAH**

UT980952840

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May 25, 2000

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION AND BACKGROUND	3
2.1 Site Operational History.....	4
2.2 Description of Existing Closure Measures and Elements.....	6
2.2.1 Main Embankment and Containment Dikes.....	6
2.2.2 Natural Underlying Clay Soils.....	7
2.2.3 Vegetated Soil Cover	7
2.2.4 Diversion Ditches.....	8
2.2.5 Fencing.....	9
2.3 Regional Geology	9
2.4 Regional Hydrogeology	10
2.5 Surface Water.....	12
3.0 PREVIOUS SITE INVESTIGATIONS	14
3.1 Air Monitoring Investigations	15
3.2 Tailings Cover Investigations	16
3.3 Studies of Tailings Impoundment Integrity and Stability.	17
3.4 Groundwater Investigations	18
3.5 Investigations of Surface Water Quality	22
4.0 PRELIMINARY SITE MODEL.....	24
4.1 The Tailings Impoundment.....	25
4.2 Other Tailings Materials.....	26
4.3 Surface Water.....	26
4.4 Groundwater	30
4.5 Identification of Potential Contaminant Migration Pathways.....	31
5.0 SUPPLEMENTAL REMEDIAL INVESTIGATION WORK.....	32
5.1 Tailings Cover Investigation	33
5.2 Off-Impoundment Tailings Investigation	34
5.3 Wind-Blown Tailings	36
5.4 Surface Water.....	37

5.5	Groundwater	39
5.6	Main Embankment Investigation.....	41
5.7	Sampling and Analysis and Health and Safety Plans	42
6.0	FOCUSED RISK ASSESSMENT.....	43
7.0	TREATABILITY STUDIES	43
8.0	FURTHER REMEDIAL ACTION.....	43
9.0	DELIVERABLES	46
10.0	SCHEDULE.....	47
11.0	COMMUNITY RELATIONS.....	47

1.0 INTRODUCTION

Respondents (as defined in the Administrative Order on Consent (U.S. E.P.A. Docket No. _____), dated _____, 2000) (the AOC") submit this Focused Remedial Investigation/Feasibility Study ("RI/FS") Work Plan pursuant to the Statement of Work, Focused Remedial Investigation/Feasibility Study, Richardson Flat Tailings Site, Summit County, Utah, UT980952840." United Park City Mines Company ("United Park") is the current owner of a large parcel of property (the "Property"), comprising approximately 700 acres, located in Summit County, Utah. Figure 1.0 shows the general geographic location of the Property. A historic mine tailings impoundment, consisting of a large, geometrically closed basin formed by an earth embankment and a series of perimeter containment dikes, covers approximately 160 acres of the Property and is sometimes referred to as "Richardson Flat" or simply the "Site." The tailings impoundment resulted from decades of mining and milling silver-laden ore in the area around Park City known as the Park City Mining District. The Site is depicted in Figure 2.0.

The Site has remained unused since mining and milling operations ceased in 1982. Over the past fifteen years, the United States Environmental Protection Agency ("EPA"), the Utah Department of Environmental Quality ("UDEQ"), and United Park have been investigating the Site in order to characterize the Site and determine potential adverse impacts to human health and the environment associated with the Site. At the same time, United Park has been implementing a series of remedial measures at the Site intended to mitigate any potential adverse impacts on human health and the environment.

As the result of previous Site operations and United Park's remedial efforts, Respondents believe that key elements are in place to support final Site closure. These existing closure elements include (i) the installation of multiple monitoring wells to monitor groundwater conditions in and around the Site; (ii) the construction of a large, earth embankment and a series of containment dikes to contain the tailings; (iii)

construction of a diversion ditch system surrounding the impoundment to collect and redirect; (iv) the placement of a vegetated clay soil cover to isolate the tailings, to prevent tailings from becoming wind-borne, and to minimize the infiltration of water to the tailings; and (v) the installation of a security fence to limit Site access.

Based on available data from the Site and from similar tailings impoundments, Respondents believe that the tailings impoundment as currently closed does not unacceptably impact upon, and does not otherwise pose unacceptable risks to, human health or to the environment. Respondents further believe that final Site closure can be achieved without the implementation of further remedial measures. On the other hand, Respondents recognize that EPA and UDEQ have expressed concerns about Site conditions that the agencies believe must be addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, Respondents propose to use the data collected to date concerning the Site (after an evaluation of its suitability for use in the RI/FS process) and the data derived from the proposed, Focused Remedial Investigation and Feasibility Study, to facilitate an evaluation of the effectiveness and appropriateness of the existing in-place remedies and to determine whether any further remedial measures are needed to support final Site closure. If and to the extent further remedial measures are required at all, Respondents believe that any appropriate final remedy for the Site should incorporate to the maximum extent practicable all existing elements of Site closure.

The purpose of this Work Plan is to outline additional Site characterization work to be performed that will gather data to assist in the evaluation of the soundness and appropriateness of the existing remedies and, to the extent necessary, recommend additional remedial measures to support final Site closure. This and other data will also be presented for use by the EPA to perform a focused risk assessment. It will also be used in the Focused Remedial Investigation and Feasibility Study final reports both consistent with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA") and the National Contingency Plan ("NCP") to support final site closure.

This Work Plan describes current knowledge about the Site and its history, summarizes investigation and characterization work completed to date, presents a conceptual model of the Site, and describes the additional investigative, risk assessment, feasibility study, and community relations work to be performed. This Work Plan also presents a description of the anticipated reports and deliverables and a project schedule.

2.0 SITE DESCRIPTION AND BACKGROUND

The Richardson Flat Property covers approximately 700 acres in a small valley in Summit County, Utah, located one and one-half miles northeast of Park City, Utah. The tailings impoundment Site covers approximately 160 acres in the northwest corner of the Property and lies within the NW quarter of Section 1 and NE quarter of Section 2, Township 2 South, Range 4 East, Summit County, Utah. Figure 2.0 shows the Site boundary.

In 1988, during the first proposal by the EPA to place the Site on the NPL, the site boundaries were limited to the impoundment area and adjacent lands. It did not include the area known as the floodplain tailings. The floodplain area, along with the Park City Municipal Landfill were evaluated as part of the work completed by the EPA in 1992 in connection with EPA's second proposal to list the Site on the NPL.

For the purposes of this Focused RI/FS, the Site will include the area shown on Figure 2. The Park City Municipal Landfill is physically separated from and has no operational connection with the Site, and thus, is not a part of the Site for purposes of this focused RI/FS.

Likewise, the Focused RI/FS does not propose including the floodplain tailings as part of the Site. As noted more fully in United Park's comments to EPA's proposals to list the site on the NPL, there is no evidence linking the floodplain tailings to the Site. The flood plain tailings are located in an area that is upgradient from the Site and on the other side of the railroad bed, a physical barrier that isolates the floodplain tailings from the Site. But more important, analytical data from the floodplain tailings indicate

that they are of a different nature and composition than the tailings deposited at the Site. All of the evidence leads to the conclusion that the floodplain tailings are composed of upstream tailings mixed with the natural fluvial sediments in Silver Creek. The floodplain tailings originated upstream from the tailings located on the Silver Maple unpatented mining claims (BLM ownership) and the Silver Creek Tailings site (Prospector Square, Park City) and were carried downstream in Silver Creek to the floodplain. Therefore, the floodplain tailings area is also not a part of the Site for purposes of this focused RI/FS.

2.1 Site Operational History

United Park was formed in 1953, with the consolidation of Silver King Coalition Mines Company and Park Utah Consolidated Mines Company, both publicly traded mining companies at the time. Tailings were first placed at the Site prior to 1950. The mill tailings present at the Site consist mostly of sand-sized particles of carbonate rock with some minerals containing silver, lead, zinc and other metals. While few specific details are known about the exact configuration and operation of the historic tailings pond, certain elements of prior operations are apparent. It appears that from time to time, tailings were transported to the Site through three distinct low areas on the Property. Over the course of time, tailings materials also settled out into these three low areas that were ultimately left outside and south of the present impoundment area as constructed in 1973-74. An embankment constructed along the western area of the Site also appears to have been in place as part of the original design and construction of the tailings pond, but few details are known of the original embankment.

In 1970, Park City Ventures ("PCV"), a joint venture partnership between Anaconda Copper Company ("Anaconda") and American Smelting and Refining Company ("ASARCO"), entered into a lease agreement with United Park to use the Property for disposal of additional mill tailings resulting from renewed mining in the area. PCV contracted with Dames & Moore to provide construction specifications for reconstruction of the Site for continued use as a tailings impoundment (Dames & Moore, 1974). The

State of Utah approved PCV's proposed Site operations based on Dames & Moore's design, construction, and operation specifications. Before disposing of tailings at the Site, PCV installed a large, earth embankment along the western edge of the existing tailings impoundment and constructed perimeter containment dike structures along the southern and eastern borders of the impoundment to allow storage of additional tailings. *See Figure 2.0.* PCV also installed a diversion ditch system along the higher slopes north of the impoundment and outside of the containment dike along the east and south perimeter of the impoundment to prevent surface runoff from the surrounding land from entering the impoundment. PCV also installed groundwater monitoring wells near the base of the main embankment, as part of the required approval process by the State of Utah.

PCV conveyed tailings to the impoundment by a slurry pipeline from its mill facility located south of the Site. Over the course of its operations, PCV disposed of approximately 420,000 tons of tailings at the Site. In addition to developing construction specifications for the Site, Dames & Moore also provided PCV with operating requirements for the tailings pond and slurry line, that were also approved by the State of Utah as a requirement for operating the Site. Dames & Moore recommended, among other things, that PCV operate the slurry line in such a way so as to deposit tailings around the perimeter of the tailings impoundment and moving towards the center of the impoundment (Dames & Moore, 1974 at 21). This is also common operating practice in the industry. Unfortunately, PCV failed to follow the Dames & Moore requirement and operated the slurry line in such a way that a large volume of tailings were placed near the center of the impoundment in a large, high-profile, cone-shaped feature. After cessation of operations by Noranda in 1982, the presence of this cone-shaped feature of the tailings pond resulted in the prevailing winds cutting into the tailings and the tailings materials becoming wind-borne. Had the slurry line been operated according to the Dames & Moore specifications, the high-profile tailings cone would not have existed and prevailing winds would not have been a significant potential exposure pathway at the Site.

Between 1980 and 1982, Noranda Mining, Inc. ("Noranda") leased the mining and milling operations and placed an additional, estimated 70,000 tons of tailings at the Site. No new tailings have been placed at the Site since Noranda ceased its operations.

2.2 Description of Existing Closure Measures and Elements

Over the years, certain efforts have been taken at the Site that can be used to support final closure. More specifically, tailings at the Site are presently contained through a combination of man-made and natural factors, discussed below.

2.2.1 Main Embankment and Containment Dikes. As explained above, the majority of the tailings at the Site are contained in a geometrically closed basin, with a large, earth, embankment (the "main embankment") in place along the western edge of the Site. The main embankment is vegetated and is approximately 40 feet wide at the top, 800 feet long, and has a maximum height of 25 feet (Dames & Moore 1980, at Plate 2). The main embankment was designed to permit seepage of water from the impoundment to relieve hydraulic pressure on the embankment. In March of 1974, Dames & Moore recommended to PCV, and in November 1980, recommended to Noranda, that engineered seepage controls be installed at the base of the main embankment. (Dames & Moore 1974, 1980 at 9 and 16, respectively) It appears that neither company followed this recommendation. A series of man-made containment dikes contain the tailings along the southern and eastern perimeter of the impoundment. The northern edge of the impoundment is naturally higher than the perimeter dikes.

In 1980, Dames & Moore investigated the tailings impoundment structures for Noranda and noted that the main embankment was not constructed in accordance with its original design specifications and noted that it was oversteepened in some areas. Nevertheless, Dames & Moore did not have any immediate concerns about the stability of the main embankment at that time. While Dames & Moore did express reservations if additional tailings were added to the impoundment over a long period of time, Noranda ceased mining and milling operations in 1982 and no tailings or slurry water have been

disposed of at the Site since that time. Respondents agree with previous investigations that portions of the main embankment are oversteepened and were not constructed in accordance with original design recommendations. As part of the Focused RI/FS, Respondents will design an appropriate wedge buttress to address this problem. This work is further described in Section 5.6.

2.2.2 Natural Underlying Clay Soils. Past geotechnical studies by Dames and Moore and the more recent Weston report indicate that the impoundment is underlain by native high clay-content soils with sufficiently low permeability to support closure in place for the tailings. Existing data demonstrates that there is no hydraulic connection between the tailings impoundment and underlying groundwater systems, as discussed in more detail in sections 2.4, 3.4, 4.4, and 5.5 below.

2.2.3 Vegetated Soil Cover. During active operations at the Site by PCV and Noranda, tailings were slurried to the Site, using some 60 gallons of water per minute under normal operations. When Noranda ceased operations in 1982, the tailings pond was, for the most part, full of water and was too soft and unstable to get onto the impounded tailings with heavy equipment. Starting in 1983, United Park began placing soil cover on tailings outside of the impoundment, located in the three low areas south of the south diversion ditch (See Figure 2.0). By 1985, the tailings impoundment had dried out enough in certain areas to support heavy equipment and United Park began installing soil cover material over those portions of the tailings impoundment using soil from both the Park City area and from within the Property. The soil cover consists of clay-rich soil, with kaolinite being the predominant clay mineral (Weston, 1999 at 4).

The soil cover was installed at that time in large part to prevent prevailing winds from cutting into the cone-shaped tailings feature left at the Site by previous operators. United Park focused its initial efforts on placing soil cover around the cone-shaped tailings feature to eliminate the possibility of wind-blown tailings from leaving the impoundment. Several feet of cover were required in areas around the cone-shaped feature in order to provide for a reasonable final grade of the impoundment. By 1988,

work around and on the cone-shaped tailings feature had been completed and other areas of the tailings had begun to dry out enough to support additional work. United Park then began a more aggressive program to cover all exposed tailings. Drought conditions during the early 1990s created sufficiently stable conditions to allow United Park to complete the soil cover, even on areas that had contained, at times, ponded water. At least 12 inches of low-permeability, clay cover material is in place in the north-west area of the impoundment where ponded water occurred. Currently, there are no areas of exposed tailings material on the Site. The soil cover is also vegetated largely due to United Park's efforts to re-seed the area with appropriate plant species.

The purposes of the soil cover are to prevent direct contact with the tailings material, to prevent tailings from becoming wind-borne, and to minimize the infiltration of surface water into the tailings materials. Although United Park believes the existing soil cover is sufficient to protect human health and the environment, United Park intends to confirm the lateral and vertical extent of the existing soil cover and will evaluate the need for further remedial measures on the soil cover. This is further described in more detail in section 5.1, below.

2.2.4 Diversion Ditches. A diversion ditch system borders the north, south, and east sides of the impoundment to prevent runoff from the surrounding land from entering the impoundment (See Figure 2.0). Precipitation falling on the impoundment area creates the limited volume of seasonal surface water that can be seen on the Site. The north diversion ditch collects snowmelt and storm water runoff from upslope, undisturbed areas north of the impoundment and carries it in an easterly direction towards the upstream origin of the south diversion ditch. An unnamed ephemeral drainage to the southeast of the impoundment also enters the south diversion ditch at this point. Additional water enters the south diversion ditch from other areas lying south of the impoundment at a point near the southeast corner of the diversion ditch structure (See Figure 3.3). This water consists of spring snowmelt and storm water runoff. Water in the south diversion ditch flows from east to west and ultimately empties into Silver Creek just

upstream of Highway 189 near the north border of the Property. Although a discrete flow of water from the south diversion ditch to Silver Creek is maintained only during the higher water periods of the year.

In 1992 and 1993, United Park reconstructed the south diversion ditch by decreasing the slope of its banks from nearly vertical to a more gradual slope. United Park also placed a clay soil cover over the re-sloped banks of the south diversion ditch, down to and including areas of the banks underwater. The new banks were then seeded with appropriate varieties; presently, the existing ditch banks are vegetated. United Park did not disturb the bottom of the ditch bed. Since doing this work, surface water quality data has shown marked improvement from year to year and the downward trend in metals content measured in the surface water continues to this day (*See Figure 3.2a*). In May of 1999, United Park reconstructed the north diversion ditch along its entire length. United Park intends to continue to collect surface water quality and sediment characterization data from the south diversion ditch system, as described in more detail in section 5.4, below.

2.2.5 Fencing. In the mid 1980s, United Park installed a fence along most of the Property boundary, including the entire impoundment and much of the property south of the impoundment in order to restrict and control access to the Site. United Park maintains the fence in good repair and United Park intends to continue to do so to control access to the Site until such time as limited access is no longer necessary, consistent with Property redevelopment.

2.3 Regional Geology

The Property lies within the Park City East Geologic quadrangle map as recorded by the U.S. Geologic Survey (*See Figure 2.1*). Geologic maps at a scale of 1:24,000 compiled by Crittenden and others (1966) and by Bromfield and Crittenden (1971) cover this and nearby quadrangles. Bryant (1990) provides a regional 1:100,000-scale map of the area.

The Property is located within a complex fold and thrust belt that was later intruded and overlain by volcanic rocks. Sedimentary bedrock near the Property, dated in the Paleozoic to Mesozoic period in age, is overlain by a thick layer of extruded volcanic rock, dips approximately 25 to 60 degrees to the north, and strikes generally northeast-southwest (Crittenden and others, 1966; Bromfield and Crittenden, 1971). The Tertiary gravels and volcanic rocks unconformably overlie Mesozoic sedimentary rocks. No known faults exist near the Site.

Tailings on the Site lie on top of alluvial/colluvial sediments that are 30 to 50 feet in depth and are the product of the erosion of the adjacent and underlying volcanic extrusives. Review of borehole data indicates that these sediments are comprised of:

- Two to five feet of soft, organic and clay-rich topsoil
- One to 30 feet of various mixtures of fine-grained silt and clay
- Four feet of sand and gravel
- Variable thickness of highly-weathered, volcanic breccia composed of relatively soft, tight, sandy and silty clay, grading to moderately hard, slightly to moderately fractured volcanic rock.

2.4 Regional Hydrogeology

Hydrogeology in the area is characterized by shallow alluvial aquifers located in fine-grained, alluvial and colluvial material, and the deeper, Silver Creek Breccia bedrock aquifer located in the Keetley volcanics. Bromfield and Crittenden (1971) describe this unit of the Keetley volcanics as consisting of intermediate laharc breccias with less common flow breccias and interlayered tuffs. In the subsurface, the weakly consolidated Silver Creek Breccia is interlayered with sedimentary rocks. These sedimentary layers are more numerous toward the base of this unit and consist of quartzite, limestone, siltstone, and shale.

The shallow aquifers are generally encountered from fifteen to thirty feet below the ground surface, in confined and unconfined conditions, and located in gravelly

clay. Fine-grained, silty clays cover the top aquifer, and clay and silt separate the shallow aquifers from each other. The shallow aquifer structure appears to be consistent from south of the Site to Silver Creek on its northwest border.

Recent exploratory drilling (designed to better assess groundwater resources for private entities) about 1.5 miles northwest of the Property indicates that the paragenetic relationship between the Tertiary volcanic rocks and associated sediments are complex. Wells located approximately three miles northwest of the Property in Sections 16 and 22, Township 1 South, Range 4 East, Salt Lake Base and Meridian (SLB&M) either flowed to the surface following completion or had shallow static water. These wells indicate that confined to semi-confined aquifers comprise both shallow and deeper aquifer(s) within the Tertiary volcanic rocks and deeper associated sediments. Pump testing and monitoring of water levels in local wells that tap both the shallow and deeper aquifers indicate no apparent hydraulic communication between the shallow and deeper Tertiary volcanic rocks and associated sediments (Pers. Comm. Todd Jarvis, September 1999).

The hydraulic conductivity, effective transmissivity, saturated thickness, and effective porosity for the Tertiary volcanic rocks and associated sediments were derived from nearby wells. Controlled aquifer test data are available for wells located in Sections 16 and 22, Township 1 South, Range 4 East, SLB&M. Analysis of data collected from the well indicates that near-well transmissivities approach 110 to 310 ft²/day with lateral variations in aquifer permeability that both increase and decrease the aquifer's transmissivity (Weston, 1999). For example, Park City Municipal Corporation (PCMC) recently installed a test well in the southeast corner of Section 34, Township 1 South, Range 4 East, approximately one mile northwest of Property. The well was spudded on the weathered Keetley Volcanics with the underlying Thaynes Limestone as the targeted aquifer. However, the Thaynes Limestone was not encountered at the final drilled depth of 1,000 feet. While the exploratory boring developed water from the fractures in the unweathered Keetley volcanic rocks, the quantity of water that reasonably could be developed from the Keetley Volcanics at this location was between 100 to 200 gpm with

long-term drawdown estimated at 250 to 300 feet (specific capacity = 0.33 to 0.4 gpm per foot of drawdown or a transmissivity of 30 to 50 ft²/day). This yield was considerably less than the quantity desired by PCMC for a municipal water supply, and the well remains unused (Hansen, Allen & Luce, 1996, letter report to PCMC).

Generally speaking, the hydraulic gradients in the shallow aquifers roughly parallel topography (i.e., from South to North) except near the southern boundary of the tailings embankment, where the diversion ditch causes the flow to change to the northwest (Weston, 1999 at 6). This northerly bearing orientation of the hydraulic gradient is consistent with regional trends mapped by Brooks and others (1998). Based on the artesian flow observed during the course of drilling the previously described wells located north of the Property, the unconsolidated sediments in this area have a low vertical permeability and local semi-confined to confined conditions (Pers. Comm. Todd Jarvis, September 1999).

2.5 Surface Water

Surface water is present at the Site in four areas in and around the Site. First, Silver Creek flows along the west edge of the Property, over 500 feet from the main embankment. Second, the drainage ditch system surrounding the tailings impoundment seasonally collects runoff water flowing towards the impoundment and redirects it around the impoundment and into Silver Creek. This diversion ditch system also includes a pond in the southwestern portion of the Site and a ditch traversing the hillside north of the Site. Surface water is also present in the form of ponded water in the northwestern area of the impoundment, having ponded over the clay soil cover over the impoundment. Finally, very small quantities of surface water are present in the form of a seep located near the base of and near the north end of the main embankment.

Consideration of the fate and transport of the surface waters mentioned above is necessary to understand any impact that the Site may have on surface water quality in the area, including Silver Creek. Because ponded water on the impoundment is

derived solely from precipitation falling directly on the impoundment, the volume of ponded water varies from year to year. Ponded water follows several pathways or possible fates from the impoundment. Nearly all water loss can be attributed to evaporation and plant use within the pond. A small amount of the ponded water percolates through the underlying, low permeability soil cover and into the tailings. The ponded water never leaves the impoundment as a discrete surface flow.

The north diversion ditch (which flows west to east) discharges into an area east of the impoundment where water may ultimately enter the south diversion ditch system (which flows east to west) into a pond and ultimately towards Silver Creek. In the spring, surface water in the south diversion ditch has enough flow to sustain a discrete flow to Silver Creek. In the later summer when water flows are the lowest, the water flowing from the diversion ditch is difficult to trace to Silver Creek as a discrete flow. It is likely that some of the diversion ditch water evaporates and is taken up by plants. The south diversion ditch generally stops flowing only in the late summer or fall on the easternmost end of the ditch only. The south diversion ditch, however, never completely dries out so it does not appear that diversion ditch water infiltrates into the ground. Weston reports that the diversion ditch serves as a hydraulic sink and may intercept groundwater (Weston 1999 at 7). For this reason, it appears that late-season flow in the south diversion ditch is comprised of groundwater intercepted by the ditch.

Water from the small seep at the base of the main embankment flows at a very limited rate, in the range of gallons per day. The exact flow rate has not been measured and cannot be calculated without stripping significant amounts of vegetation and organic matter from around the seep area and installing a drain to collect the dispersed flow. However, it is clear that due to the low volume of water, a discrete flow is not and cannot be maintained long enough to reach Silver Creek, over 500 feet away. The small amount of water discharging from the seep is likely utilized by the surrounding vegetation or may evaporate.

3.0 PREVIOUS SITE INVESTIGATIONS

Since the 1970s, PCV, Noranda, EPA, and United Park have conducted numerous environmental investigations relating to the Site. Beginning in the 1970s, PCV conducted groundwater, tailings pond, and embankment design studies that focused on the construction of containment structures that would accommodate additional tailings. In 1980, Noranda conducted studies to determine the current condition of the impoundment and the potential for future enlargement of the impoundment. In the 1980s and early 1990s, EPA conducted studies of groundwater, surface water, and air quality to determine whether Site contaminants posed sufficiently high threats to human health or the environment to require listing of the Site on the National Priorities List ("NPL"). United Park initially conducted studies in response to EPA's proposal to list the Site on the NPL. More recently, United Park has obtained data focusing on the characterization of Site hydrogeology and surface water quality.

EPA has proposed listing the Site on the NPL on two occasions. In 1988, EPA proposed listing the Site on the NPL based on the Site's Hazardous Ranking System ("HRS") score. After considering public comments, EPA ultimately declined to list the Site. By 1992, the HRS scoring system had been revised. At that time, EPA rescored the Site and again proposed that the Site be placed on the NPL. Based on the new proposal to list the Site, the EPA Emergency Response Branch (ERB) conducted additional investigations on the Site and determined that conditions did not warrant emergency removal action. In 1994, the Agency for Toxic Substances and Disease Registry (ATSDR) in their "Preliminary Public Health Assessment Addendum on the Richardson Flat Tailings" found that the Site posed "no apparent public health hazards due to past or present exposure." They did, however, consider Richardson Flat an "indeterminate public health hazard" in the future due to the potential for residential development on or near areas where significant levels of contamination may be found. United Park's future land use plan includes provisions that residential development will not occur in these areas.

The EPA has yet to list the Site on the NPL, but the Site's listing on CERCLIS remains in effect. While no formal regulatory action has occurred with respect to the Site since the second proposed listing, United Park has continued its efforts to investigate and close the Site by improving the soil cover, maintaining the diversion ditches, and collecting surface water and groundwater data.

This section summarizes past investigation activities and existing Site data. The reports and data from these investigations are very useful in determining the scope of additional investigative activities needed to bring final closure to the Site. From 1985 to 1988 and from 1992 to 1993, the EPA conducted and reported on investigations at the Site.

Because past investigation activities by PCV, Noranda and United Park were performed without EPA oversight, the results from such investigations will be evaluated as part of, and incorporated as appropriate into, the Focused RI/FS.

3.1 Air Monitoring Investigations

Due to concerns over wind-blown tailings resulting from the cone-shaped tailings feature created by past operators, EPA conducted air monitoring investigations on two separate occasions. Due to United Park's subsequent placement of the full, vegetated clay soil cover, data from these investigations are no longer directly relevant but are reported here to support United Park's proposed study of off-Site wind blown tailings.

In 1985, when approximately 40 percent of all of the tailings on the Property had been covered with the soil cover, Ecology and Environment, Inc. ("E&E"), a contractor working for EPA, collected Site air data. Four high volume air samplers were located on or immediately adjacent to the tailings impoundment and one was located approximately one-half mile southeast of the Site. Data were collected at the Site over a five-day period and the filters from the samplers were analyzed for arsenic, cadmium, lead and zinc. A meteorologic station was installed at the Site and wind direction, air temperature, barometric pressure and relative humidity data were collected. The prevailing wind direction measured at that time was from the northwest to southeast (E&E, 1987 at 3).

According to E&Es analytical data, increases were noted for all metals measured in downwind versus upwind monitoring locations. Review of the data in Table 1 of the 1987 E&E report shows that 52% of arsenic, 92% of cadmium, 17% of lead and 14% of zinc measured on the air filters at the Site were below the laboratory's detection limits.

E&E again conducted air monitoring in 1992 at five locations. The installation of the cover within the impoundment had progressed to the point where all of the exposed tailings had been covered, with the exception of one area of tailings where salt grass and other native plant species were growing and had stabilized the tailings. These air monitoring activities showed no detectable levels of arsenic, cadmium or lead. Trace levels of zinc were detected in four of the seventeen samples collected. There are no ambient air quality standards for zinc. The significant reduction in the concentration of target analytes from these two air-monitoring programs can be explained by United Park's efforts to cover the remaining areas of the impoundment. Since 1992, all of the exposed tailings in the impoundment have been covered, including the area where salt grass was growing.

3.2 Tailings Cover Investigations

As part of the EPA ERB investigations in 1992, E&E conducted a survey of the depth of soil cover. E&E measured the depth of cover at 29 locations on a grid pattern of 400 x 400 feet. These locations are depicted on Figure 2, Appendix B. According to the E&E report (E&E, 1992at 4), a visual contrast was apparent between the soil cover and the gray colored tailings beneath the cover. X-ray fluorescence ("XRF") measurements for lead were taken at select locations to confirm the visual contrast where the distinction was not clear (see Appendix B, Table 1, for the soil cover data). E&E reported that much of the tailings either had soil or salt grass covering the exposed tailings. Generally, data from the 1992 study shows that the soil cover varied in thickness from less than six inches up to fourteen inches in depth in the areas E&E tested. E&E did not test areas of thick cover, where as much as three feet of cover were present. Of the 29 points E&E measured, only one location had no soil or salt grass present. Subsequent to E&E's work, United Park has

placed additional soil cover in this and other areas of the impoundment to improve the tailings cover and support Site closure.

As part of the recent hydrogeologic investigation by Weston (as discussed in section 3.4, below), data were collected on the soil characteristics of the tailings cover. Samples of the tailings cover soil were tested to determine classification and hydraulic characteristics. Soil cover samples were collected from three representative locations over the Site and were tested for moisture content and dry density. Based on this testing, the soil cover was classified as lean clay with sand. Two of the three samples were also submitted for laboratory analysis to determine permeability. Laboratory testing indicated that the cover soil is highly impermeable, with permeabilities ranging from 3 to 7×10^{-8} cm/sec. These values roughly correspond to permeabilities typically measured in clay liner systems that are required to be installed at hazardous waste landfills. X-ray diffraction ("XRD") analysis of select samples indicated that the soil cover clay mineralogy closely matched the XRD peaks for illite and kaolinite. Kaolinite was the most prevalent clay mineral and it is stable with little tendency for volume change when exposed to water. Illite is generally more plastic than kaolinite and does not expand when exposed to water (Weston 1999 at 4).

3.3 Studies of Tailings Impoundment Integrity and Stability.

In 1974, PCV hired Dames & Moore to conduct an investigation of the Site and to develop construction specifications for reconstruction of the embankment in order to accommodate the placement of additional tailings materials. While PCV raised and reconstructed the embankment and installed the containment dike system, according to subsequent work performed by Dames & Moore for Noranda, PCV did not appear to follow the design specifications developed by Dames & Moore. In 1980, Dames & Moore conducted an impoundment integrity and stability investigation for Noranda, the then-current operator of the Richardson Flat tailings impoundment. The objective of that investigation was to assess the overall condition and usefulness of the existing facilities and

to determine what measures would be required for long-term tailings disposal (Dames & Moore 1980 at 1). Dames & Moore noted several construction flaws during the 1980 investigation, specifically noting that the main embankment was oversteepened in some locations. Dames & Moore concluded that while it did not have any immediate concerns regarding the stability of the main embankment and containment dikes, it did have concerns regarding the use of the Site to dispose of additional tailings.

In 1992, E&E examined the tailings impoundment for EPA. Although E&E noted that the main embankment generally was not constructed according to the 1974 recommendations of Dames & Moore, E&E concluded that there appeared to be no immediate threat of gross failure of the tailings containment structure.

3.4 Groundwater Investigations

In the early 1970s, PCV began to collect groundwater data at the Site. Since that time, both EPA and United Park have investigated groundwater conditions at the Site.

In 1973, PCV installed three monitoring wells (MW-1, MW-2 and MW-3) at the bottom of the main embankment. In 1976, PCV installed three additional wells (MW-4, MW-5, MW-6). Figure 3.3 shows the well locations. It appears that PCV buried monitoring well MW-2 in 1976 during installation of the three new wells. Thus, five groundwater monitoring wells are located near the toe of the embankment. The boring and well completion logs for these five wells can be found in Appendix D and are summarized below.

- MW-1 was drilled to a depth of 35 feet below the ground surface ("bgs"). Bedrock was encountered from 14.5 feet bgs to the total depth drilled. Well screen and gravel pack were installed from 24 to 34 feet bgs.
- MW-2 was drilled to a depth of 21 feet bgs; bedrock was encountered from 11 to 21 feet bgs. Well screen and gravel pack were installed from 3 to 9.5 feet bgs. (This well was destroyed during the installation of MWs-4 through 6 in 1976).

- MW-3 was drilled to a depth of 29 feet bgs; and bedrock was encountered from 5.8 to 31 feet bgs. Well screen and gravel pack were installed from 2.5 to 25 feet bgs.
- MW-4, MW-5, and MW-6 were drilled to 4.0 feet, 6.1 feet and 6.1 feet bgs, respectively. Boring and completion logs for these wells are not available.

Since 1973, PCV, and later, United Park, have collected data quarterly from these embankment wells. Table 3.2 presents groundwater data collected by United Park from 1982 to 1987 and 1991 to 1998 from these monitoring wells.¹ Data presented in Table 3.2 shows that the water quality has steadily improved in the monitoring wells generally over time. However, there are some anomalies that are readily apparent. For instance, in September of 1998, pH levels between 2.7 and 4.1 were noted for MW-4 and MW-5, respectively. Although these are relatively low pH values and could be indicative of a change in water chemistry in these two wells, it is interesting to note that dissolved zinc concentrations measured in MW-4 for the same time period were an order of magnitude lower than for the measurement in June of 1998 when the pH was 7.1. In MW-5, the dissolved zinc concentrations were similar between June and September of 1998 and the pH values were 7.7 and 4.1, respectively. Both of these wells are completed within the first six feet of the ground surface. Thus, it is likely that the water that is monitored here is vadose zone water that is highly oxidigenated. The oxidigenated water will have a highly variable water chemistry depending on the hydrogeologic characteristics of the subsurface soils. A definitive trend in the water chemistry is not apparent. As part of additional studies planned for the Site, United Park will review the historical data and determine the suitability of wells MW-4, MW-5 and MW-6 as groundwater monitoring wells. In 1985,

¹ Groundwater data from the main embankment wells for the years 1988 to 1990 are not readily available to United Park and as a result are not reported herein. United Park is attempting to locate data from 1988 to 1990, if it is located, and will report it as part of the RI/FS Report, discussed below.

E&E collected groundwater samples from one upgradient well and two wells located downgradient of the main embankment.² E&E installed the upgradient RT-1 monitoring well. The two downgradient wells were existing wells installed by PCV around 1974 and 1975.³

In 1992, EPA hired E&E to conduct an additional groundwater investigation. The 1992 groundwater data collected revealed a similar trend as shown in the 1985 E&E study. E&E collected groundwater samples from the Site at three locations, referred to as RF-GW-04 (EPA well RT-1), RF-GW-05 (United Park location MW-1) and RF-GW-09 (United Park location MW-6). Table 3.3 compares the data collected by EPA in 1984 and 1992 with data collected from the same wells by United Park in 1998. Review of the data collected from RT-1 in 1984 and 1992 reveals that water quality appears to have deteriorated at this location over time. Some dissolved metal concentrations have increased from 1984 to 1992. The 1992 data contains some anomalies that suggest either the sample was contaminated or there were some analytical errors; dissolved metal

² According to the E&E sampling report, United Park wells MW-1 and MW-2 were sampled. However, this was not the case: MW-1 was most likely sampled and MW-5 or MW-6 were sampled since MW-2 was believed to have been buried during the installation of MW-4, MW-5 and MW-6 (see Plate 1, Appendix A). United Park's 104(e) response to EPA in 1988 did not contain data for MW-2. The data record submitted to EPA covered the time period from 1982 to 1987. Therefore, E&E could not have sampled MW-2 at that time.

³ While E&E compared the upgradient and downgradient metals concentrations in order to determine if the tailings materials were impacting groundwater beneath the impoundment, comparison of this data is not appropriate. Further analysis of the well completion logs for RT-1 and MW-1 compared to the total depth of wells MW-5 or MW-6 reveals that RT-1 was screened in both the upper and lower shallow aquifers. MW-1 is screened in the bedrock aquifer and wells MW-5 and MW-6 are screened in the vadose zone. Comparing data from these wells is not accurate since all the wells are completed in different aquifers. E&E reported that downgradient metals concentrations were elevated as compared to upgradient concentrations. However, in 1985, only manganese exceeded National Interim Primary (NIP) drinking water standards. (E&E 1985).

concentrations are greater than the total for antimony, copper, and silver. The change in water chemistry over the eight-year time period is difficult to explain at this time. The well is completed in two aquifers, and thus, there is likely a mixing of water between the two water bearing zones. During site visits in early 1999, it had been observed that the wellhead integrity had been compromised, apparently by vandals. It is not known if this damage had occurred in 1992. As a result, surface contamination may have impacted water quality. The well was installed by E&E in 1984, and therefore, is the property of the EPA. United Park does not sample this well. United Park believes that the well should be abandoned according to proper procedures because of the intermixing of the two aquifers and the breach in the wellhead integrity.

In 1999, United Park hired Weston Engineering, Inc. ("Weston") to conduct a supplemental hydrogeological investigation of the Site. This study represented the most extensive groundwater investigation conducted to date to better understand groundwater systems on the Property. Weston evaluated historical Site and regional data to derive a hydrogeological conceptual Site model (see Appendix A). In the course of its investigation, Weston also installed eleven additional piezometers throughout the Property (see Plate 1, Appendix A). Boring logs from the piezometer installation verified the existence of two aquifers associated with the Property. Water level data collected from the piezometers indicates that the two aquifers are confined and are separated from one another by a significant layer of stiff, clay-rich material. The upper aquifer is overlain by approximately 15 feet of reddish-brown mixtures of silt and clay. An additional two to five foot layer of clay-rich soil overlies this layer of clay-rich material (Weston, 1999, at 4). The local geology has greatly influenced the types of soils that have developed on the Property. The altering and weathering of Keetley volcanics, which form the surrounding hills, have provided the source material for soil development. The abundant clays that result from the alteration and weathering of the Keetley volcanics form the bulk of the natural alluvial material as well as the soil within the Property. Percolation tests conducted on this volcanic soil that was borrowed to cover the tailings within the impoundment indicates that

it has very low permeability, $3 \text{ to } 7 \times 10^{-8} \text{ cm/sec}$. Water level data collected after the installation of the piezometers and subsequent water level measurements indicate that the water levels in the two aquifers varies seasonally, with higher water levels occurring in the Spring.

The data reported by Weston was not available to earlier Site inspection teams and other agencies that previously evaluated the Site. Studies by Dames & Moore identified the presence of clays in the naturally-occurring material at the Site. It was not until Weston's investigation that the extent and significance of the natural clay material underlying the Property was known. The existence of two to five feet of clay-rich topsoil and the presence of the large area of silt and clay that overly the upper aquifer represent a significant barrier to the vertical migration of any water from saturated tailings.

3.5 Investigations of Surface Water Quality

United Park has collected surface water quality data at the Site since 1975. Data from 1982 to 1988 are presented in Table 3.1. Samples were collected from locations upstream and downstream of the confluence of the south diversion ditch with Silver Creek. Also, samples were collected from water that runs in the diversion ditch as it passes through the Site. Figure 3.1 shows the sample locations.

A review of the historical and recent data from these three sampling points demonstrates that since the time that United Park's re-grading and covering of the banks of the south diversion ditch (1992-1993), water quality has steadily improved both in the south diversion ditch at the point where it leaves the Site and in Silver Creek below the Site (See Figures 3.2 and 3.2a). The data also demonstrates that although some metals are present in upgradient areas in the south diversion ditch, by the time the water discharges to Silver Creek, metal levels have decreased significantly.

In 1999, United Park initiated a surface water sampling program designed to characterize water chemistry in the south diversion ditch and Silver Creek near the Site. Table 3.4 presents the data collected in 1999; Figure 3.3 shows the 1999 sample locations;

and Table 5.2 lists the analytical parameters that were measured in surface waters in and around the Site. Samples were collected at eleven locations in May and June of 1999 during the spring snowmelt and runoff season (designated RF-1 through RF-10 on Figure 3.3). Samples were collected and analyzed for full suite parameters as shown in Table 5.2 at RF-1 and RF-3 (See Figure 3.3) on the unnamed drainages that flow into the south diversion ditch. Samples were collected in May and June of 1999 at RF-2, RF-4, RF-5 and RF-6 on the south diversion ditch. Samples RF-2 and RF-6 were analyzed for full suite parameters and RF-4 and RF-5 were analyzed for total and dissolved metals. Samples RF-7, RF-7-2, RF-8 were collected from Silver Creek and analyzed for full suite parameters. Location RF-9 is the ponded water that exists on the tailings impoundment this sample was analyzed for full suite parameters. Sample location RF-10 represents background water quality from the south unnamed drainage near the county road along the eastern boundary of the site. RF-10 was sampled one time and will not be sampled in the future. Sample locations RF-3 and RF-3-2 will replace RF-10. Samples were collected monthly at three locations (RF-6, RF-7-2 and RF-8) from July to November of 1999. Full suite analyses consisted of major cations and anions, metals and field parameters. Target metals were arsenic, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc. Field parameters were flow, pH, conductivity and temperature.

Table 3.4 presents the 1999 data in three categories. The first category compares the data to aquatic wildlife criteria, the second category gives the general water chemistry data, and the third category compares the data to water quality standards for a Class 1C stream (this is the classification for Silver Creek). The aquatic wildlife standard is based on hardness in the water. Therefore, the standard will have a different value depending on hardness at each location. Metal data presented in the first category are compared to hardness-dependent aquatic wildlife criteria. Protection of Aquatic Wildlife Criteria is the most stringent regulatory standard for comparison purposes. In other words, if the metal concentration is less than the aquatic wildlife criteria, then that metal concentration will be less than the applicable water quality standard. Examination of the

first category of data presented in Table 3.4 reveals that for all of the metals measured only zinc and mercury exceed the aquatic wildlife criteria. Zinc exceeds both the acute and chronic criteria in samples collected upstream in Silver Creek (RF-7 and RF-7-2) and downstream (RF-8) of the south diversion ditch confluence. Zinc concentrations measured in the diversion ditch (RF-6 and RF-6-2) are well below the aquatic wildlife criteria.

Mercury concentrations measured in 1999 were all below the laboratory detection limit of 0.0005 mg/l at all of the sample locations. The acute aquatic wildlife criteria is 0.0024 mg/l and the chronic criteria is 0.000012 mg/l. Therefore, measured mercury concentrations were below the acute criteria. EPA recently promulgated laboratory method 1631 that establishes a standardized procedure to measure mercury at the 2-3 part per trillion range.

4.0 PRELIMINARY SITE MODEL

Based on previous and current environmental studies and existing Site conditions, Respondents have developed a preliminary model of the Site. A Conceptual Site Model will be developed in coordination with EPA's toxicologist using information presented in the preliminary site model. The Conceptual Site Model will also be used to assist in the evaluation of the appropriateness of the existing remedies and, to the extent necessary, in the development of additional remedial measures to support final Site closure. The preliminary site model has been developed to portray existing site conditions and more recent data and information that have been developed by United Park. The preliminary site model is described below and graphically portrayed in Figure 4.0, and will be used to evaluate the need for additional Site characterization work to be performed as part of the Focused RI/FS. After the Conceptual Site Model is derived, it will be updated and refined as additional data are gathered during the Focused RI and, with input from EPA, will be used to support EPA's preparation of the baseline risk assessment.

4.1 The Tailings Impoundment

The tailings impoundment can be visualized as a semi-rectangular shaped, geometrically closed basin, with a man-made main embankment on the west edge and perimeter containment dike system along the south and east sides and a sloping natural surface forming the fourth side. See Figure 2.0. The main embankment is located along the western dimension of the impoundment. The tailings impoundment structure isolates and contains variably thick, slimy and sandy mill tailings materials. The impoundment is covered with high clay-content, vegetated soil. The tailings have been deposited on thick layers of native, clay-rich soils. Metals present in the tailings material are the primary potential sources of contaminants at the Site. Geochemical data collected during air monitoring conducted in 1984 by E&E for the EPA characterize the tailings as metal sulfide materials. Such compounds, when found in a neutral pH environment such as exists at the Site, are not easily degraded and are particularly stable. As appropriate, modeling techniques may be used during the FS to evaluate the long-term chemical stability of the materials within the impoundment to support final closure of the Site

The clay-rich soils underlying the impoundment formed the original ground surface topsoil materials that existed at the Site prior to the deposition of the tailings. Permeability data reported by Weston indicate that these underlying clay soils have a low hydraulic conductivity, ranging from 0.001 to 5 ft/year. The clay soil cover materials have permeabilities ranging from 0.031 to 0.072 ft/year (Weston, Table 1, page 7, 1999). A diversion ditch system prevents most storm water from entering the impoundment from off-Site sources, as explained more fully below in Section 4.3.

4.2 Other Tailings Materials

Some tailings materials are present outside and to the south of the current impoundment area. During historic operations of the tailings pond, tailings materials of varying thickness accumulated in three naturally low areas leading to the property that eventually became the impoundment.

In the 1970s, when PCV constructed the perimeter dike and diversion ditch along the south perimeter of the impoundment, tailings present in the three low areas were left in place, outside of the present impoundment. Starting in 1983, United Park covered most of these tailings outside of the current impoundment with the same kind of low permeability, vegetated soil cover United Park also placed over the tailings impoundment. Other types of clean fill material, imported from construction work in Park City, was also used to cover the tailings outside of the impoundment. Because these areas were naturally low, the cover in some of these areas is as thick as 10 to 15 feet. Data from the Weston Report indicates that the same underlying, natural soil conditions exist in these locations as beneath the impoundment.

As explained more fully in Section 5.2, below, United Park will estimate the areal and vertical extent of tailings outside of the impoundment. United Park will also study any adverse impacts the tailings materials may have on surface water in the south diversion ditch. With this information, United Park will evaluate the necessity and the feasibility of excavating these off-impoundment tailings and cover materials and placing the same within the impoundment.

4.3 Surface Water

As noted above, surface water is present in four areas in and around the Site. First, Silver Creek flows along the west edge of the Property, over 500 feet from the main embankment. Second, the drainage ditch systems surrounding the tailings impoundment seasonally collect runoff water flowing towards the impoundment and redirect it around the impoundment and towards Silver Creek. Surface water is also present in the form of ponded water in the northwestern area of the impoundment, having ponded on the surface of the clay soil cover. Finally, very small quantities of surface water are present in the form of seeps located near the base of and near the north abutment of the main embankment.

Ponded water on the surface of the soil cover within the impoundment is derived solely from precipitation falling directly on the impoundment. The amount of

water ponding on the surface of the impoundment varies from year to year. Ponded water follows several pathways or possible fates from the impoundment. Nearly all water loss can be attributed to evaporation and plant use within the pond. A small amount of the ponded water likely percolates through the underlying, low permeability soil cover and into the tailings. The ponded water never leaves the impoundment as a discrete surface flow. It is highly unlikely that surface water would ever fill the basin within the impoundment. Even if large amounts of water ended up on the impoundment for some unlikely reason, studies indicate that the area within the impoundment has sufficient capacity or "freeboard" to contain the 100-year/24-hour precipitation event, thus eliminating the possibility of overtopping (Dames & Moore, 1980 at 12, Alliance Engineering 1999). But even if the tailings impoundment were to ever overflow with water for some unlikely reason, excess water would flow to the lower, east end of the containment dike system, near the east end or point of origin of the south diversion ditch system. Water from an overtopping event would not flow west across or cut into the main embankment.

The north diversion ditch (which flows west to east) discharges into an area east of the impoundment where water may ultimately enter the south diversion ditch system (which flows east to west) towards Silver Creek. Water from the south diversion ditch flows west and collects in a pond located in a historic excavation where materials were removed for use in the construction of the main embankment during 1973-74. The grade of the south or main diversion ditch is low, and therefore, the velocity of water flowing through the ditch does not carry enough energy to erode the channel. Where higher water velocities do occur in the ditch, rip-rap or vegetation is present to minimize any potentially-adverse impacts to the ditch banks due to erosion. The ditch is well-vegetated by common wetland species such as cattails and willows. This vegetation helps to buffer the banks from erosion and also serves to decrease water velocity, thereby eliminating potential erosion problems.

In the spring, surface water in the south diversion ditch has enough flow to sustain a discrete flow to Silver Creek. In the later summer when water flows are the

lowest, the water flowing from the diversion ditch is difficult to trace to Silver Creek as a discrete flow. Some of the diversion ditch water evaporates and is taken up by plants. As noted above, the south diversion ditch never completely dries out and it does not appear that diversion ditch water significantly infiltrates into the ground. If the diversion ditch is acting as a hydraulic sink, it may be intercepting groundwater.

The seep at the base of the main embankment generates a very small flow of water, in the range of gallons per day. Due to the low volume of water, a discrete flow is not and cannot be maintained long enough to reach Silver Creek, over 500 feet away. The existence of the seep is consistent with the design of the tailings impoundment. As noted above, the main embankment was designed to allow seepage as necessary in order to alleviate the build-up of hydraulic pressure from within the impoundment. No data indicate or even remotely suggest that a potential soil piping failure may occur at the point of the seep. The physical characteristics of the seep have remained constant since it was first observed at the Site. Seepage water has not been observed to carry sediment and has been occurring at a very low flow rate that has not increased over time.

While seasonal runoff water from the south diversion ditch reaches Silver Creek during the spring and summer months of the year, United Park believes the data establish that water quality in the south diversion ditch has been steadily improving for the past decade. This has been clearly evident after United Park completely covered the *tailings inside of the impoundment* and re-graded and covered the banks of the south diversion ditch in 1992. This trend toward improved water quality not only reflects United Park's remedial efforts taken at the Site, but also the change in Site conditions from the *more dynamic status as an operating tailings pond* (receiving hundreds of thousands of gallons of water and thousands of tons of tailings per week) to a large parcel of land that only receives water from snow melt or rain. However, additional characterization of the water and wetlands in this ditch will be performed to address the long-term ability of the wetlands to continue to improve water quality. The scope of the additional characterization is discussed in Section 5.4.

In addition, recent water quality data provides sufficient parameters upon which United Park has evaluated the impacts of the tailing impoundment on Silver Creek water chemistry. United Park has used existing data in a simple mixing calculation to: (1) determine if discharges from the diversion ditch are impacting Silver Creek and (2) if such impacts are occurring, then determine what further detailed modeling and data requirements would be required to examine the impacts to Silver Creek. The mixing "model" is described in detail in Appendix C. This model has essentially calculated waste loads to Silver Creek from the diversion ditch and embankment seeps under four different scenarios. First, it is assumed that Silver Creek meets ambient water quality ("AWQ") standard for zinc. Modeling is then completed on the diversion ditch and the main embankment seep to determine what the metals loading in these two sources of water would have to be in order to assure that Silver Creek does not exceed standards. Second, modeling is done using actual values for both the seep and diversion ditch. The actual metal concentrations in Silver Creek are calculated in this scenario. The third scenario makes the assumption that Silver Creek contains no zinc or 0.00 mg/l. The fourth scenario assumes that most of the loading from tailing impoundment is eliminated.

Using available data, the calculations establish that any metal load contributions made by the south diversion ditch and, potentially, by the main embankment seep, do not adversely impact Silver Creek, even when Silver Creek is presumed to contain no metals. Stated differently, the load contribution to Silver Creek from the south diversion ditch (and to the extent relevant, from the main embankment seep) is not significant enough to cause an effect on the quality of water in Silver Creek. The contribution of the low metal concentrations from the Site do not cause Silver Creek to exceed surface water quality standards for the State of Utah, even if it is presumed that Silver Creek contains no metal. In summary, by utilizing waste-load calculations similar to those used on an NPDES permitted discharge, it can be shown that the south diversion ditch and main embankment seep do not have enough flow or metal loading to cause Silver Creek to exceed water quality standards. United Park recognizes that water quality in

Silver Creek does not meet the standards for a variety of uses. However, United Park believes that zinc concentrations observed in Silver Creek are not a result of waters flowing from the south diversion ditch and the main embankment seep from the Site. Through the RI/FS process, this modeling will be updated with newly acquired data and reevaluated, as appropriate, to assure that it is representative of existing conditions.

4.4 Groundwater

Recent and historic data establishes that there are at least four shallow groundwater systems associated with the Richardson Flat area :

- The impounded tailings
- Relatively shallow alluvium with possibly a perched water table
- Deeper alluvium composed of confined sand and gravel aquifer(s)
- The underlying and adjacent fractured Keetley volcanic rocks
(Weston 1999, at 2).

Tailings were initially placed on native, clay-rich topsoil that was the original ground surface prior to the deposition of tailings. (Weston, 1999; *see* Figure 3.0). Water is also present in the tailings from the tailings slurry transport system and the limited percolation of storm water and snowmelt through the existing soil cover. The underlying low permeability clayey soils effectively create a barrier to the vertical movement of groundwater from the tailings impoundment to the underlying shallow alluvial or bedrock aquifers. (Weston 1999, at 6).

Within the immediate area of the impoundment, groundwater flow in the bedrock aquifer monitoring well (MW-1) is reported as quite low. (Dames & Moore, 1973 at 4). Based on limited but useful data, the groundwater flow in the deeper volcanic bedrock aquifer does not appear to be significant, either. Weston reported (*see* Appendix A, page 3) that a test well located approximately one mile northwest of the Site was completed to a depth of 1,000 feet into the volcanic bedrock aquifer. The well produced

insignificant water for use as municipal water supply. Transmissivities ranged from 30 to 50 ft² /day for this well. (Weston, 1999, at 3).

4.5 Identification of Potential Contaminant Migration Pathways

Based on data collected to date, Respondents have identified three potential contaminant migration pathways. First, releases to the air as the result of wind-blown dispersion of tailings materials occurred in the past. This pathway has been eliminated because the tailings within the impoundment are covered with a soil and vegetative cover. Existing data suggests that the high clay-content soil cover is relatively impermeable, is stable, and is suitable to prevent direct contact with, and wind dispersion of, the underlying tailings materials. United Park proposes to conduct additional field work to confirm the thickness and effectiveness of the soil cover in order to determine whether additional remedial measures are needed to achieve final site closure, as described in more detail in section 5.2, below.

Second, Respondents understand that EPA has raised concern over potential releases to groundwater as the result of leaching metals from the tailings and hydraulic connectivity between saturated tailings and Site groundwater systems. Tailings materials and the substances leached therefrom would be the primary source of potential contamination to the groundwater. The potential exposure route for terrestrial or aquatic biota would be ingestion of surface water that has been affected by contaminated groundwater.

This second potential contaminant migration pathway is inconsistent with existing, natural Site conditions. Low-permeability, native clay soil is continuous beneath the impoundment, as illustrated in Figure 4.0. Mineralogical data on the underlying soils indicate that the clay layer is comprised of a mixed clay mineral (i.e., mixed mica and illite or smectite). Based on recent studies by Weston, Respondents believe that existing data establishes that it is unlikely that leached metals would migrate through the significant clay soil layer and into the underlying shallow aquifer because of the low permeability of the

soil layers underlying the tailings. The tailings are derived from mineralized bodies that are hosted in carbonate or carbonate-rich rocks. These materials have a high buffering ability to counter any acid that might form as the result of sulfide degradation. Finally, there are no drinking water wells completed in the shallow or deep alluvial aquifers on or near the Site. Additional efforts will be undertaken as part of the Focused RI to further confirm this as discussed in Section 5.5 below.

The third potential contaminant migration pathway consists of releases to surface water as the result of leaching of metals from the tailings materials. As with groundwater, tailings materials are the primary potential source of contamination of surface water. With the possible exception of the bottom of portions of the south diversion ditch and the small amount of water discharging from the seep at the base of the main embankment, surface water does not come into direct contact with the tailings materials. While a potential contamination pathway to surface water exists in portions of the south diversion ditch and in the seep at the base of the main embankment, existing data also suggests that neither pathway is having any adverse impact on the water quality or the general water chemistry, including zinc concentrations, in Silver Creek. Nevertheless, United Park will conduct additional surface water characterization work to further evaluate the condition of the southern diversion ditch and to evaluate any impacts caused or potentially caused through the surface water contaminant migration pathway, as described in more detail in section 5.4 below.

5.0 SUPPLEMENTAL REMEDIAL INVESTIGATION WORK

As summarized in Section 3.0 above, extensive investigation work has already been completed at the Site. Moreover, over the years, United Park and others have taken actions to support final closure of the Site, including the installation of a soil cover over the tailings, drainage ditches, and a security fence. In order to evaluate the need for any further remedial measures to support final Site closure and to assure that the existing remedies in place are adequate and have longevity, United Park proposes conducting the

following remedial investigation work. This Section describes and discusses the rationale and scope of the proposed work, including a description of applicable data quality objectives.

5.1 Tailings Cover Investigation

Since 1983, United Park has been placing soils over the impounded tailings in an effort to control wind-blown dust from exposed tailings. The tailings are now entirely covered with a vegetated, clay soil cover. Additional studies on the tailings cover will gather data to support evaluation of the following: (i) the minimization of surface water infiltration into the tailings embankment; and (ii) the adequacy of existing cover to support final site closure, consistent with contemplated future redevelopment of the Site and the adjacent Property. To that end, Respondent will gather sufficient supplemental data in order to meet the following objectives:

- Confirm the lateral and vertical extent of the existing tailings cover;
- Determine the technical specifications for any additional cover, if needed;
- Determine the specifications for suitable borrow material;
- Determine revegetation requirements, if needed;
- Determine surface grading requirements to improve drainage, if needed; and
- Evaluate whether or not there are any unacceptable health risks associated with potential exposure to the tailings cover materials.

Respondents will confirm the lateral and vertical extent of the soil cover by using data collected by E&E in 1992 as a baseline and collecting new soil samples on a 500 by 500 foot grid. Following procedures similar to those E&E used in 1992, Respondents will dig shallow excavations either with shovels, hand augers or backhoes, if necessary, until the tailings are exposed. Visual observations of the contact between the cover soils and

tailings will be used to document the depth of the soil cover at each grid point. The tailings materials are sufficiently different in grain size and color from the cover materials to permit use of a visual identification method to differentiate between tailings and the soil cover. The cover soils are characteristically identified as a reddish-brown clay material while the tailings are characterized as a gray silty-sand material. Verification of the visual method will be conducted by collecting samples at ten-percent of the sample points and submitting them for laboratory analysis. The samples will be collected from the cover material at the surface (0 to 1 inch) (such that EPA can assess potential health risks as a result of exposure to such cover materials) and just above the tailings interface (to assess the vertical extent of the tailings cover). The samples will be analyzed for metals noted in the Analytical List for soils shown in Table 5.2. Figure 5.0 shows the sampling grid, and Figure 2 in Appendix B shows the 1992 sample locations. Respondents will undertake additional work, as necessary, if the findings from the proposed work prove to be insufficient to meet the above-mentioned objectives. A Sample and Analysis Plan (SAP) that specifies the sample and analytical methods for this and subsequent work described in Section 5.0 will be submitted to EPA within 60 days of the effective date of the AOC .

Based on the results of the sampling and evaluation of health risks, if any, Respondents will evaluate (i) the need for additional cover material to supplement existing cover (including but not limited to evaluation of soil type, thickness, permeability, and compaction requirements); (ii) vegetation and revegetation requirements; and (iii) surface drainage requirements.

5.2 Off-Impoundment Tailings Investigation

Tailings are present in three naturally low areas south of the present south perimeter containment dike and south diversion ditch. *See Figures 2.0 and 3.3* Respondents propose to use historical aerial photographs to determine the areal extent of off-impoundment tailings materials. Respondents will also estimate the vertical extent of tailings and cover material using existing historical information and limited borehole data.

Respondents will also study whether or not shallow groundwater is moving through these tailings and is potentially intercepted by the south diversion ditch. At a minimum, United Park will install three (3) borings in the low lying areas in locations shown on Figure 3.3. The borings will be drilled down to the tailings/soil interface. If groundwater is encountered, the borings will be converted to monitoring wells. Data from the borings will be used to determine the thickness of tailings. Additional borings may be installed to better define the lateral and vertical extent of the off-impoundment tailings, if additional information is required. Such additional information may be necessary if it were determined that these tailings are adversely impacting the ground or surface water quality so as to require removal of the tailings. A surface water elevation datum will be installed at the south diversion ditch near RF-4 in the event that the monitoring wells are installed. Groundwater elevations in the monitoring wells would be compared to the surface water elevation measured near RF-4 to better quantify and qualify the interaction between the two systems. Respondents will use this additional data to determine the approximate volume of tailings located south of the impoundment, and whether these tailings are having any potential, adverse impact on the water quality in the south diversion ditch. Respondents will further use this information to determine whether or not the tailings presently located to the south of the impoundment need to be excavated and placed within the impoundment. This will include an estimation of the costs of excavation of the off-impoundment tailings (and associated cover), placement of the same within the impoundment, and installing additional soil cover as needed. Should these studies indicate that the tailings located south of the impoundment must be relocated, Respondents will also evaluate the potential geotechnical impacts excavation may have on the containment dikes along the diversion ditch, as well as the main embankment.

5.3 Wind-Blown Tailings

As previously discussed, prior to United Park's placement of a soil cover over all of the tailings, some of the tailings material may have been blown by the wind to areas near the Site. The areal extent of any wind-blown tailings has not been fully addressed in prior studies. EPA has requested that, as part of the remedial investigation work, Respondents evaluate such wind-blown tailings.

Respondents will gather sufficient data in order to meet the following objectives:

- Confirm the lateral and vertical extent of the wind-blown tailings; and
- Evaluate whether or not there are any unacceptable health risks associated with potential exposure to the wind-blown tailings.

Respondents will conduct soil sampling at select locations along three sampling transects. Sampling transects, 3,500 feet long, will be established in field with the following criteria:

- One sample transect will be placed perpendicular to the tailings impoundment, approximately 500 feet north of the main embankment.
- Two sample transects will be placed beginning 500 feet south of the county road and a second transect at a 500-foot interval.

The sampling transects locations were determined by utilizing information in E&E's report on air monitoring activities in 1986. Sample transects are placed perpendicular to observed site wind directions. E&E reported that the prevailing wind direction in Park City is from the southeast. Review of the Site wind direction data recorded by E&E confirms that the prevailing wind is from the southeast with lower velocity winds from the northwest occasionally. (E&E, 1986, at 3)

Respondents will collect soil samples at 500-foot intervals along the transects and at depths of 0-1 and 1-6 inches. The samples will be analyzed for the soil parameters listed in Table 5.2. Figure 6.0 shows the proposed location of the transects and sample intervals. Respondents will undertake additional work, as necessary, if the findings from the proposed work prove to be insufficient to meet the above-mentioned objectives. Data collected from wind-blown tailings will be used by EPA to assess potential health risks, if any, associated with exposure to such tailings, and, if necessary, determine whether any remedial action will be required.

5.4 Surface Water

Surface water is present at and near the Site, primarily in the south diversion ditch system and in Silver Creek. As noted above, elevated metal concentrations have been detected in the south diversion ditch, which not only decrease in concentration as the water flows towards Silver Creek but overall have also decreased in concentration during the last several years. Despite significant existing surface water quality data, previous surface water quality investigations did not analyze sufficient parameters to be useful in United Park's metal loading model. Additional surface water data will be collected specifically to determine impacts to Silver Creek from the Site surface waters. Expanded surface water characterization data will be gathered to determine whether the data varies with changing seasons. Respondents will also collect a series of sediment samples from the south diversion ditch to more accurately characterize the potential source of zinc in the south diversion ditch water quality samples. Samples will be collected and analyzed according to procedures that are discussed in detail in the SAP. The sediment samples will be analyzed for metals parameters listed in Table 5.2. Data from the sediment samples will be used to determine the long term fate and transport of metals in the Site wetland areas. Wetlands in the diversion ditch contain similar vegetation and sediments as wetlands present between the main embankment and Silver Creek.

Based on surface water data collected in 1999, presented in Table 3.4, and a review of historic aerial photographs, it appears that the diversion ditch channel bed may be constructed in tailings in the area just upstream and downstream of the RF-4 sample location (See Figure 3.3). In order to isolate potential source areas, six sediment samples will be collected at 500-foot intervals between sample locations RF-2 and RF-5. Water quality data presented in Table 3.4 indicates that zinc is the primary metal that is either solubilizing in the sediments or is leaching into the diversion ditch via a groundwater pathway. In addition, the long-term viability of the wetland system to continue to enhance water quality will be evaluated. This will include an evaluation of the existing biological system, identification of metal removal mechanisms, fate and transport of metals in the wetland system, and a discussion of the operation and maintenance of the diversion ditch.

In addition, more precise water flow information is needed for the “mixing model”. To gather precise flow information, United Park has recently installed a twelve-inch parshall flume on the south diversion ditch downstream of the pond. The flume will be used to measure flow in the diversion ditch upstream from the location where it enters the wetland area and Silver Creek (location RF-6). Two smaller flumes, nine inches at the throat, were installed at upstream locations on the south diversion ditch (RF-2 and RF-3-2). Flow measurements in Silver Creek will be determined just upstream of sampling station RF-7-2 by using a current meter and standardized measurement methods for open channel flow determinations. Flume installation on Silver Creek proper is difficult due to a variety of issues outside of Respondents’ control. Accurate flow information cannot be gathered at the downstream confluence of Silver Creek and the diversion ditch due to dispersed flow through the wetland area. Water flow at RF-8 in Silver Creek will be determined by adding the flow measured at RF-6 and RF-7-2. Figure 3.3 shows the flume locations.

Insufficient data currently exist to determine whether the metals loading modeling that Respondents have developed adequately characterizes conditions throughout a complete year. Future water sampling will be collected to complete the existing database.

Respondents will submit a report to EPA that summarizes data collected from May of 1999 to date. The report will be submitted with the RI report. The surface water monitoring program will be performed to collect water samples on a monthly basis at the following locations: RF-2, RF-3-2, RF-6, RF-7-2 and RF-8 (see Figure 3.3). As shown in Figure 3.3, RF-3 has been replaced with a new location, RF-3-2, to allow for flow measurement from the parshall flume. Surface water samples will be analyzed for the water parameters listed in Table 5.2. After sufficient data have been gathered, Respondents' "mixing model" will be refined using the new information. The modeling will be reevaluated with newly acquired data to assure that it is representative of existing conditions.

While more precise flow rate data from the main embankment seep may be useful, a significant amount of existing vegetation and organic matter, grown during the last ten years or so, would have to be removed before flow data can be obtained. Because Respondents believe that the existing natural conditions are very likely mitigating any dissolved metals present in the water from the seep, Respondents are reluctant to propose disturbing existing conditions at this time, unless the proposed wedge buttress design requires this information. The seep does not generate a significant volume of water. In fact, it is quite difficult to detect flow water; hence the identification as a seep. Water chemistry from this location is quite likely to be of little use other than to identify the potential source of the water. Nevertheless, Respondents will collect a sample from the main embankment seep area in order to better characterize water quality and concentrations of dissolved metals. The sample will be analyzed for the water parameters listed in Table 5.2. If additional data regarding the seep is necessary in connection with the design of the proposed wedge buttress, Respondents will collect data for that purpose.

5.5 Groundwater

The hydrogeologic conceptual model prepared by Weston will be used as the basis of further work on refining the understanding of groundwater conditions at the Site. As part of its study, Weston installed 11 new piezometers. Groundwater elevation data is

currently collected on a monthly basis to determine whether seasonal groundwater fluctuations exist. This sampling will occur through another runoff cycle or until the end of the last quarter of 2000. The data from these measurements will help determine the relationship between the shallow aquifers, the tailings impoundment and Silver Creek alluvial groundwater. A report will be drafted upon completion of the data collection process that addresses any changes in the groundwater levels.

As noted by EPA in its informal review of the Weston report, additional information is required to refine the Site's water balance. Monthly water levels will be collected from the piezometers installed by Weston in and around the impoundment. The groundwater level data will be collected in conjunction with the surface water monitoring. Groundwater and surface water elevation data will be collected at paired locations such as RT-5 and the south diversion ditch, at RT-7, and at Silver Creek. The data will be used to quantify the surface water-groundwater interaction. The hydrogeologic data coupled with existing and new groundwater chemistry will be used to evaluate the potential for groundwater impacts at the Site.

Shallow groundwater in the Silver Creek floodplain both above and below the tailings impoundment will be sampled and evaluated to determine the impact, if any, of the tailings from the Site on off-site shallow groundwater or surface water. A monitoring well will be installed downgradient of the Site in the Silver Creek alluvium. RT-7 will be used as the upgradient Silver Creek alluvial well. The data, along with all existing water quality data, will be used to better define and model groundwater quality in the Silver Creek alluvium.

As previously discussed in Section 5.2, Respondents will install three borings into the tailings areas located south of the diversion ditch to evaluate the potential for these tailings to impact groundwater or surface water in the south diversion ditch. The borings will be drilled down through the tailings and terminate at the tailings/soil interface.

The borings will be converted to monitoring wells if groundwater is encountered. Figure 3.3 shows the locations of the proposed borings.

Respondents will also evaluate the potential impacts to current users of groundwater near the Site. Respondents will conduct a survey of private wells within a one-mile radius of the Site. Respondents will locate and map groundwater elevations of all private wells within a one-mile radius of the Site. If the groundwater elevation data demonstrate that the wells are downgradient and connected to Site aquifers, then the wells will be sampled according to procedures outlined in the SAP and tested to assess whether potential groundwater impacts are occurring as a result of Site conditions.

Finally, groundwater monitoring well RT-1 will be abandoned because it was completed both in the shallow confined and unconfined aquifers. Based on the well construction, cross flow between the two aquifers may be occurring. According to state well construction regulations, such construction is not allowed without prior approval. Respondents will prepare a closure plan for the EPA RT-1 monitoring well, proposing that the well be grouted with a bentonite seal to within five feet of the ground surface and that the casing removed to below grade.

5.6 Main Embankment Investigation

The main embankment is the permanent enclosure device for the tailings materials. The stability and integrity of the main embankment have been examined two separate times by consultants for Noranda (Dames & Moore 1980) and EPA (E&E 1992). Although both groups determined that while the main embankment appeared to be stable in its then-current condition, concerns were raised about two issues:

- The oversteepened downstream slope of the embankment.
- Seepage present at the toe of the main embankment.

Respondents agree that portions of the main embankment are oversteepened and were not constructed in accordance with the recommendations made by Dames & Moore in 1974. As a result, Respondents proposes to design an appropriate wedge buttress to be installed along oversteepened portions of the main embankment. The buttress will

enhance the long-term effectiveness of the final closure remedy for the Site. Respondents will evaluate the condition of the main embankment during the RI/FS phase, and will prepare construction design specifications for the wedge buttress as part of the final remedial design process.

Because several of the groundwater monitoring wells installed by previous operators are currently located in the area where the wedge buttress would likely be constructed, United Park anticipates that it will be necessary to close these wells. United Park will prepare a well abandonment plan for EPA approval. The wells will be grouted with a bentonite seal to within five feet of the ground surface and the casing removed to below grade. Data from the seep may also need to be gathered in order to develop an appropriate wedge buttress design.

In addition, the long-term chemical stability of the tailings will be evaluated. Samples of the tailings materials will be collected at three (3) locations on the impoundment as shown on Figure 5.0. The samples will be analyzed for metals and long term leaching potential. The SAP provides details on the sample collection and analytical procedures.

5.7 Sampling and Analysis and Health and Safety Plans

As part of the focused RI/FS, Respondents will prepare a sampling and analysis plan ("SAP"), and a site health and safety plan ("HASP"). The SAP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP). The FSP will define the sampling and data-gathering methods that will be used on the project. The QAPP will describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired data quality objectives. The HASP will be prepared in conformance with the United Park's health and safety program, and in compliance with OSHA regulations and protocols.

6.0 FOCUSED RISK ASSESSMENT

The EPA will perform the focused risk assessment. Given the current isolated nature of the Site, the knowledge of future land use of the Site, and the past health assessments which have been conducted for the Site, EPA agrees that a "streamlined" risk assessment using a proposed future land use and a "focused" RI/FS (using existing data to the fullest extent possible and evaluating a limited number of alternatives consistent with proposed future land use) is appropriate.

7.0 TREATABILITY STUDIES

Respondents will develop and evaluate potential additional remedial alternatives to support a final closure of the Site that will be protective of human health and the environment, and consistent with the contemplated future land use of the Site. At this time, such additional remedial measures would not involve treatment of hazardous wastes or substances. Consequently, it is unlikely that treatability studies would need to be performed as part of the evaluation and selection of final additional remedial measures to support final closure of the Site. However, if new information comes to light as a result of Respondents' focused RI/FS efforts, or if circumstances change, then Respondents will evaluate the need for and conduct, as necessary, treatability tests in accordance with the NCP and EPA's Model the Statement of Work, and as approved by EPA.

8.0 FURTHER REMEDIAL ACTION

Based on the data collected from and the remedial measures that have already been implemented at the Site to date, and in consideration of remedial measures implemented at similar tailings impoundment sites throughout Utah and other Rocky Mountain states, Respondents believe that final Site closure can be achieved without the implementation of further remedial measures. However, Respondents recognize that EPA and UDEQ have concerns about Site conditions that the agencies believe must be

addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, Respondents agree to further investigate the nature and extent of contamination at the Site to supplement the investigation efforts performed at the Site to date and confirm that the measures implemented at the Site to date are adequate to support final closure of the Site. If necessary, based on the findings of these efforts, Respondents will also develop and evaluate potential additional remedial alternatives to support a final closure of the Site that is protective of human health and the environment, and consistent with contemplated future land use of the Site. Respondents propose to use the data derived from the Focused RI/FS (together with a focused risk assessment to be performed by EPA) to determine whether any further remedial measures are needed to support final Site closure.

If and to the extent further remedial measures are required at all, Respondents believe that any appropriate final remedy for the Site should incorporate, to the maximum extent practicable, all existing elements of Site closure, and where necessary and appropriate, should adopt additional measures to improve Site closure. Such additional measures, if required, may include:

- Improving and maintaining the main embankment stability and integrity
- Improving and maintaining the soil cover
- Improving and maintaining the surface drainage
- Improving and maintaining the diversion ditches
- Excavating tailings located outside of the impoundment, placing the same within the impoundment, and placement of additional cover
- Establishing appropriate institutional controls to prevent unacceptable exposure risks

If necessary, as part of the FS, Respondents will develop appropriate remedial action objectives, and develop and evaluate potential additional remedial

alternatives, to support a final closure of the Site that is protective of human health and the environment. Respondents will begin to develop and evaluate a range of appropriate further remedial alternatives to support final Site closure, concurrent with the RI Site characterization task. Based on EPA's focused risk assessment, Respondents will review, and if necessary and appropriate for the Site: 1) modify the site-specific remedial action objectives; 2) develop general response actions for each medium of interest to satisfy the remedial action objectives; 3) identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives; 4) identify, screen and document technologies, if any, applicable to each general response action to eliminate those that cannot be implemented at the Site; 5) assemble and document further alternative remedial measures; 6) refine the further alternative remedial measures, as necessary; and 7) conduct and document a screening evaluation of each further remedial alternative measure.

Respondents will also conduct a detailed analysis of additional remedial alternatives to support final closure of the Site. These will consist of an analysis against a set of nine evaluation criteria to ensure that the selected additional remedial measures will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARs; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element (if appropriate). The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARs; (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state (or support agency) acceptance; and (9) community acceptance. (Note: criteria 8 and 9 are considered after the focused RI/FS report has been released to the general public.) As part of its evaluation of the long-term effectiveness of the final closure remedy for the Site, Respondents will also utilize, as appropriate, modeling

techniques to evaluate the long-term chemical stability of the materials within the tailings impoundment.

It should be noted that long-term, non-residential land uses are being considered for the Site and the Property. While the Property outside the impoundment is already suitable for development, the Property is not currently being used for any productive purpose. The area outside of the actual impoundment may be suitable for development for non-residential, recreational uses. Certain non-residential uses, consistent with the soil cover and any appropriate institutional controls, may be appropriate for the southern area of the tailings impoundment area itself.

9.0 DELIVERABLES

Respondents will prepare an RI/FS Report that will present analytical data collected during the focused remedial investigation and an interpretation of the data in relation to human health and environmental exposures. It will address the following topics:

- Site characteristics
- Site physical characteristics
- Source characteristics
- Nature and extent of contamination
- Contaminant fate and transport
- Streamlined risk evaluation

Respondents will also prepare an appropriate FSP, QAPP and HASP prior to fully implementing the work proposed in this Work Plan.

10.0 SCHEDULE

Respondents will develop a schedule to guide the work proposed in this document using the Critical Path Method (CPM). Negotiations with the EPA over the administrative agreement will determine the initiation date for the focused RI/FS and will define roles and responsibilities for its completion. Should additional work be deemed necessary as a result of the discovery of new information gathered in the performance of the work tasks outlined herein, the deliverable schedule will be adjusted to accommodate work revisions.

11.0 COMMUNITY RELATIONS

Consistent with the requirements of the NCP, EPA and UDEQ, with support from Respondents, will prepare a Community Relations Plan.

00 SEP 28 11:45

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

MAY 27 1988

IN THE MATTER OF:)
)
 RICHARDSON FLAT TAILINGS)
)
 United Park City Mines Company)
 Respondent)
)
)
 Proceeding Under Sections 104, 122(a),)
 and 122(d)(3) of the Comprehensive)
 Environmental Response, Compensation,)
 and Liability Act as amended)
 (42 U.S.C. Sections 9604, 9622(a),)
 9622(d)(3)).)
)

U.S. EPA Docket
 No. CERCLA-8-2000-19

ADMINISTRATIVE ORDER ON CONSENT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

I. INTRODUCTION

1. This Administrative Order on Consent ("Consent Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and United Park City Mines Company ("Respondent"). The Consent Order concerns the preparation of, performance of, and reimbursement for all associated costs incurred by EPA in connection with a focused remedial investigation and feasibility study ("RI/FS") for the Richardson Flat Tailings Site (the "Site"), located near Park City, Utah.

II. JURISDICTION

2. This Consent Order is issued under the authority vested in the President of the United States by Sections 104, 122(a) and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. Sections 9604, 9622(a), 9622(d)(3) (CERCLA). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987), and further delegated to the EPA Region 8 Director of the Superfund Remedial Response Program, Office of Ecosystem Protection and Remediation (the "Director") by EPA Delegation No. 14-14-C.

3. The Respondent agrees to undertake all actions required by the terms and conditions of this Consent Order. In any action by

EPA or the United States to enforce the terms of this Consent Order, Respondent consents to and agrees not to contest the authority or jurisdiction of the Director to issue or enforce this Consent Order, and agrees not to contest the validity of this Consent Order or its terms.

III. PARTIES BOUND

4. This Consent Order shall apply to and be binding upon EPA and shall be binding upon Respondent, its agents, successors, assigns, officers, directors and principals. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order. No change in the ownership or corporate status of the Respondent or of the facility or Site shall alter Respondent's responsibilities under this Consent Order.

5. The Respondent shall provide a copy of this Consent Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred. Respondent shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Consent Order, within 14 days after the effective date of this Consent Order or the date of retaining their services, whichever is later. Respondent shall condition any such contracts upon satisfactory compliance with this Consent Order. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Consent Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Consent Order.

IV. STATEMENT OF PURPOSE

6. In entering into this Consent Order, the objectives of EPA and the Respondent are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site or facility, by conducting a focused remedial investigation; (b) to determine and evaluate alternatives for remedial action (if any) to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site or facility, by conducting a focused feasibility study; and (c) to recover RI/FS response and oversight costs incurred by EPA with respect to this Consent Order.

7. The activities conducted under this Consent Order are subject to approval by EPA and shall provide all appropriate necessary information for the RI/FS, with the exception of the focused baseline risk assessment to be performed by EPA, and for a record of decision that is consistent with CERCLA and the National

Contingency Plan ("NCP"), 40 C.F.R. Part 300. The activities conducted under this Consent Order shall be conducted in compliance with all applicable EPA guidances, policies, and procedures.

V. FINDINGS OF FACT

8. The Richardson Flats Site (CERCLIS ID # UTD980952840) is located approximately three and one-half miles northeast of Park City, in Summit County, Utah. The Site is a former mine tailings impoundment and covers approximately 160 acres immediately southeast of the junction of U.S. Highway 40 and Utah Highway 248. The tailings pile is adjacent to Silver Creek, a tributary to the Weber River. Some wetlands are positioned between the tailings pile embankment and Silver Creek.

9. Tailings were first placed at the Site prior to 1950. Tailings disposal continued intermittently through 1982 with several modifications and enlargements of the pile occurring. Since 1982, the Site has been inactive, although the Respondent has taken various actions intended to mitigate any potential impacts on human health and the environment including fencing the Site and covering the tailings pile with clean soil.

10. Sampling conducted by EPA has revealed the presence of heavy metals, including arsenic, cadmium, lead, and zinc, in tailings at the Site, as well as in surface water within the south diversion ditch on the Site, and in some shallow ground water wells. These results are documented in various EPA investigations, including the "Analytical Results Report for Richardson Flat Tailings" dated October 25, 1985 and the "Final Report" regarding removal assessment dated February 19, 1993.

11. The primary contaminant migration pathways for the Site, include, but are not limited to: (1) release to surface water and discharge to Silver Creek; (2) release to ground water and discharge of that ground water to Silver Creek or local wells; and (3) direct contact with tailings, contaminated soils, or contaminated sediments.

12. The Site was originally proposed for inclusion on the National Priorities List ("NPL") on June 24, 1988. Due to scoring issues and comments received from Respondent and others during the public comment period, the Site was removed from NPL consideration in February 1991. Using the revised Hazard Ranking System (Update 12), the Site was re-proposed for the NPL on February 7, 1992. No final action has been taken with regard to this proposed listing.

13. The Respondent, United Park City Mines Company, is the owner of the Site.

VI. CONCLUSIONS OF LAW AND DETERMINATIONS

14. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. Section 9601(9).

15. Wastes and constituents thereof at the Site, identified in paragraph 10 are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. Section 9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA.

16. The presence of hazardous substances at the Site or the past, present or potential migration of hazardous substances currently located at or emanating from the Site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. Section 9601(22).

17. Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. Section 9601(21).

18. Respondent is a responsible party under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. Sections 9604, 9607 and 9622.

19. The actions required by this Consent Order are necessary to protect the public health or welfare or the environment, are in the public interest, 42 U.S.C. Section 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. Sections 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. Section 9622(a).

VII. NOTICE

20. By providing a copy of this Consent Order to the State, EPA is notifying the State of Utah that this Consent Order is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by the Consent Order.

VIII. WORK TO BE PERFORMED

21. All work performed under this Consent Order shall be under the direction and supervision of qualified personnel. The Respondent has notified EPA that it intends to use the following personnel in carrying out such work: Kerry C. Gee, Resource Management Consultants, Inc., under the direction of James Fricke, and HDR Engineering, Inc., under the direction of Kenneth Napp. EPA hereby approves Respondent's use of the foregoing personnel and consultants in performing the work called for herein. In the event that Respondent desires to use different or additional personnel during the course of the RI/FS, Respondent shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories

to be used in carrying out such work. The qualifications of any new or additional persons undertaking the work for Respondent shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Consent Order is contingent on Respondent's demonstration to EPA's satisfaction that Respondent is qualified to perform properly and promptly the actions set forth in this Consent Order. If EPA disapproves in writing of any person(s)' technical qualifications, Respondent shall notify EPA of the identity and qualifications of the replacement(s) within 30 days of the written notice. If EPA subsequently disapproves of the replacement(s), EPA reserves the right to terminate this Consent Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondent.

22. Respondent shall conduct activities and submit deliverables as provided by the attached Statement of Work for Focused Remedial Investigation/Feasibility Study (the "SOW") and Workplan (the "Workplan"), which are incorporated by reference, for the development of the RI/FS. All such work shall be conducted in accordance with CERCLA, the NCP, and EPA guidance including, but not limited to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05) and guidances referenced therein, and guidances referenced in the Workplan, as may be amended or modified by EPA. The general activities that Respondent is required to perform are identified in the SOW and are described more fully in the Workplan. The tasks that Respondent must perform are described more fully in the Workplan and guidances. Deliverables identified in the SOW and Workplan shall be submitted to EPA as provided therein. All work performed under this Consent Order shall be in accordance with the schedules therein, and in full accordance with the standards, specifications, and other requirements of the Workplan and sampling and analysis plan, as initially approved or modified by EPA, and as may be amended or modified by EPA from time to time. For the purpose of this Consent Order, day means calendar day unless otherwise noted in the Consent Order.

23. EPA reserves the right to comment on, modify and direct changes for all deliverables. At EPA's discretion, Respondent must fully correct all deficiencies and incorporate and integrate all information and comments supplied by EPA either in subsequent or resubmitted deliverables.

24. Respondent shall not proceed further with any subsequent activities or tasks until receiving EPA approval for the following deliverables: sampling and analysis plan, draft focused remedial investigation report, treatability testing work plan (if required) and sampling and analysis plan, and draft focused feasibility study report. While awaiting EPA approval on these deliverables, Respondent shall proceed with all other tasks and activities which

may be conducted independently of these deliverables, in accordance with the schedule set forth in this Consent Order.

25. Upon receipt of the draft focused FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed.

26. For all remaining deliverables not enumerated above in paragraph 22, Respondent shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Respondent from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.

27. In the event that Respondent amends or revises a report, plan or other submittal upon receipt of EPA comments, if EPA subsequently disapproves of the revised submittal, or if subsequent submittals do not fully reflect EPA's directions for changes, EPA retains the right to seek stipulated or statutory penalties; perform its own studies, complete the RI/FS (or any portion of the RI/FS) under CERCLA and the NCP, and seek reimbursement from the Respondent for its costs; and/or seek any other appropriate relief.

28. In the event that EPA takes over some of the tasks, but not the preparation of the RI/FS, Respondent shall incorporate and integrate information supplied by EPA into the final RI/FS report.

29. Neither failure of EPA to expressly approve or disapprove of Respondent's submissions within a specified time period(s), nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondent(s)' deliverables, Respondent is responsible for preparing deliverables acceptable to EPA.

30. Respondent shall, prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to EPA's Designated Project Coordinator of such shipment of hazardous substances. However, the notification of shipments shall not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.

(a) The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondent shall notify the receiving state of major changes in the shipment plan, such as a decision to

ship the hazardous substances to another facility within the same state, or to a facility in another state.

(b) The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the focused remedial investigation and feasibility study. Respondent shall provide all relevant information, including information under the categories noted in paragraph 30(a) above, on the off-site shipments, as soon as practical after the award of the contract and before the hazardous substances are actually shipped.

IX. EPA'S FOCUSED BASELINE RISK ASSESSMENT

31. EPA will perform the focused baseline risk assessment. The focused baseline risk assessment will be a streamlined human health/ecological risk assessment taking into account the existing conditions at the Site, the proposed future land use and existing information. Respondent shall support EPA in the effort by providing various information to EPA as outlined above. The major components of the focused baseline risk assessment include contaminant identification, exposure assessment, toxicity assessment, and human health and ecological risk characterization.

32. EPA will provide, after review of the Respondent's site characterization summary, sufficient information concerning the baseline risks such that the Respondent can begin drafting the focused feasibility study report and the Memorandum on Remedial Action Objectives. This information will normally be in the form of two or more focused baseline risk assessment memoranda prepared by EPA. One memorandum will generally include a list of the chemicals of concern for human health and ecological effects and the corresponding toxicity values. Another should list the current and potential future exposure scenarios, exposure assumptions, and exposure point concentrations that EPA plans to use in the focused baseline risk assessment. The public, including the Respondent, may comment on these memoranda. However, the Agency is obligated to respond only to significant comments that are submitted during the formal public comment period.

33. EPA will make good faith efforts to provide a draft focused baseline risk assessment to Respondent no later than ninety (90) days after EPA acceptance of the focused RI report as final. After EPA responds to any significant comments from the Respondent, EPA will release the focused baseline risk assessment to the public at the same time it releases the final RI report. Both reports will be put into the administrative record for the Site. EPA will respond to all significant comments on the memoranda or the focused baseline risk assessment that are resubmitted during the formal comment period in the Responsiveness Summary of the Record of Decision.

X. MODIFICATION OF THE WORKPLAN

34. If at any time during the RI/FS process, Respondent identifies a need for additional data, a memorandum documenting the need for additional data shall be submitted to the EPA Project Coordinator within 20 days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondent and whether it will be incorporated into reports and deliverables.

35. In the event of conditions posing an immediate threat to human health or welfare or the environment, Respondent shall notify EPA and the state immediately. In the event of unanticipated or changed circumstances at the Site, Respondent shall notify the EPA Project Coordinator by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In addition to the authorities in the NCP, in the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the Workplan, EPA shall modify or amend the Workplan in writing accordingly. Respondent shall perform the tasks set forth in the Workplan as modified or amended.

36. EPA may determine that, in addition to tasks defined in the initially approved Workplan, other additional work may be necessary to accomplish the objectives of the RI/FS as set forth in the Workplan for this RI/FS. EPA may require that the Respondent perform this work in addition to those required by the initially approved Workplan, including any approved modifications, if it determines that such actions are necessary for a complete RI/FS. Respondent shall confirm its willingness to perform the additional work in writing to EPA within seven (7) days of receipt of the EPA request or Respondent shall invoke dispute resolution. Subject to EPA resolution of any dispute, Respondent shall implement the additional tasks which EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the Workplan or written Workplan supplement. EPA reserves the right to conduct the additional work itself at any point, to seek reimbursement from Respondent, and/or to seek any other appropriate relief.

XI. QUALITY ASSURANCE

37. Respondent shall assure that work performed, samples taken and analyses conducted conform to the requirements of the Workplan, the QAPP and guidances identified therein. Respondent will assure that field personnel used by Respondent are properly trained in the use of field equipment and in chain of custody procedures.

XII. FINAL RI/FS, PROPOSED, PLAN, PUBLIC COMMENT,
RECORD OF DECISION, ADMINISTRATIVE RECORD

38. EPA retains the responsibility for the release to the public of the RI/FS report. EPA retains responsibility for the preparation and release to the public of the proposed plan and record of decision in accordance with CERCLA and the NCP.

39. EPA shall provide Respondent with the final RI/FS report, proposed plan and record of decision.

40. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondent must submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Respondent shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Respondent must additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondent and state, local or other federal authorities concerning selection of the response action. At EPA's discretion, Respondent may establish a community information repository at or near the Site, to house one copy of the administrative record.

XIII. PROGRESS REPORTS AND MEETINGS

41. Respondent shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

42. In addition to the deliverables set forth in this Consent Order, Respondent shall provide to EPA monthly progress reports by the 10th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall (1) describe the actions which have been taken to comply with this Consent Order during that month, (2) include all results of sampling and tests and all other data received by the Respondent, (3) describe work planned for the next two months with schedules relating such work to the overall project schedule for RI/FS completion and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XIV. SAMPLING, ACCESS, AND DATA AVAILABILITY/ADMISSIBILITY

43. All results of sampling, tests, modeling or other data (including raw data) generated by Respondent, or on Respondent's

behalf, during implementation of this Consent Order, shall be submitted to EPA in the subsequent monthly progress report as described in Section XII of this Order. EPA will make available to the Respondent validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

44. Respondent will orally notify EPA at least 15 days prior to conducting significant field events as described in the Workplan or sampling and analysis plan. At EPA's oral or written request, or the request of EPA's oversight assistant, Respondent shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) of any samples collected by the Respondent in implementing this Consent Order. All split samples of Respondent shall be analyzed by the methods identified in the QAPP.

45. At all reasonable times, EPA and its authorized representatives shall have the authority to enter and freely move about all property at the Site and off-site areas where work, if any, is being performed, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondent and its contractor pursuant to this order; reviewing the progress of the Respondent in carrying out the terms of this Consent Order; conducting tests as EPA or its authorized representatives deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to EPA by the Respondent. The Respondent shall allow these persons to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Consent Order, subject to a claim of privilege asserted in accordance with paragraph 46 below. Nothing herein shall be interpreted as limiting or affecting EPA's right of entry or inspection authority under federal law. All parties with access to the Site under this paragraph shall comply with all approved health and safety plans. Whenever reasonably possible, EPA shall notify Respondent orally or in writing at least seven (7) days prior to entering the Site to perform any of its inspection activities.

46. The Respondent may assert a claim of business confidentiality covering part or all of the information submitted to EPA pursuant to the terms of this Consent Order under 40 C.F.R. Section 2.20., provided such claim is allowed by section 104(e)(7) of CERCLA, 42 U.S.C. Section 9604(e)(7). This claim shall be asserted in the manner described by 40 C.F.R. Section 2.203(b) and substantiated at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA or the state without further notice to the Respondent. Respondent agrees not to assert confidentiality claims with respect to any data related to Site conditions, sampling, or monitoring. In addition, Respondent may assert that documents, records or other information

are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted. However, no documents, reports or other information created or generated pursuant to the requirements of this Consent Order shall be withheld on the grounds that they are privileged. Respondent shall retain all records and documents that they claim to be privileged until any such dispute has been resolved in Respondent's favor.

47. Except with regard to the objections already presented in comments filed by Respondent, in entering into this Order, Respondent waives any objections to any data gathered, generated, or evaluated under the terms of this Consent Order by EPA, the state, or Respondent in the performance or oversight of the work that has been verified according to the quality assurance/quality control (QA/QC) procedures required by the Consent Order or any EPA-approved work plans or sampling and analysis plans. If Respondent objects to any other data relating to the RI/FS, Respondent shall submit to EPA a report that identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within 15 days of the monthly progress report containing the data.

48. If the Site, or the off-site area that is to be used for access or is within the scope of the RI/FS, is owned in whole or in part by parties other than those bound by this Consent Order, Respondent will obtain, or use its best efforts to obtain, Site access agreements from the present owner(s) within sixty (60) days of the effective date of this Consent Order. Such agreements shall provide access for EPA, its contractors and oversight officials, the state and its contractors, and the Respondent or its authorized representatives, and such agreements shall specify that Respondent is not EPA's representative with respect to liability associated with site activities. Copies of such agreements shall be provided to EPA prior to Respondent's initiation of field activities. Respondent's best efforts shall include providing reasonable compensation to any off-site property owner. If access agreements are not obtained within the time referenced above, Respondent shall immediately notify EPA of its failure to obtain access. EPA may obtain access for the Respondent, perform those tasks or activities with EPA contractors, or terminate the Consent Order in the event that Respondent cannot obtain access agreements. In the event that EPA performs those tasks or activities with EPA contractors and does not terminate the Consent Order, Respondent shall perform all other activities not requiring access to that site, and shall reimburse EPA for all costs incurred in performing such activities. Respondent additionally shall

integrate the results of any such tasks undertaken by EPA into its reports and deliverables. Furthermore, Respondent agrees to indemnify the U.S. Government as specified in Section XXVI of this Order. Respondent also shall reimburse EPA for all costs and attorney fees incurred by the United States to obtain access for the Respondent pursuant to this paragraph.

XV. DESIGNATED PROJECT COORDINATORS

49. Documents including reports, approvals, disapprovals, and other correspondence which must be submitted under this Consent Order, shall be sent by certified mail, return receipt requested, to the following addressees or to any other addressees which the Respondent and EPA designate in writing:

(a) Three copies of documents to be submitted to EPA should be sent to:

Jim Christiansen
Richardson Flat Tailings Project
Coordinator,
Superfund Remedial Section, 8EPR-SR
US EPA, Region VIII,
999 18th Street, Denver, CO, 80202-2466.

(b) Two copies of documents to be submitted to the State should be sent to:

Muhammad A. Slam
State of Utah Department of Environmental Quality
Division of Environmental Response & Remediation
168 North 1950 West, 1st Floor
Salt Lake City, Utah 84116

(c) One copy of documents to be submitted to the Respondent should be sent to:

Kerry C. Gee
Vice President
United Park City Mines Company
P.O. Box 1450
Park City, Utah 84060

And

Kevin R. Murray
LeBoeuf, Lamb, Green & MacRae
136 South Main, Suite 1000
Salt Lake City, Utah 84101

50. On or before the effective date of this Consent Order, EPA and the Respondent shall each designate their own Project

Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, communications between the Respondent and EPA shall be directed to the Project Coordinator by mail, with copies to such other persons as EPA, the state, and Respondent may respectively designate. Communications include, but are not limited to, all documents, reports, approvals, and other correspondence submitted under this Consent Order.

51. EPA and the Respondent each have the right to change their respective Project Coordinator. The other party must be notified in writing at least 10 days prior to the change.

52. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's Project Coordinator shall have the authority consistent with the National Contingency Plan, to halt any work required by this Consent Order, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Consent Order shall not be cause for the stoppage or delay of work.

53. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). The oversight assistant may observe work and make inquiries in the absence of EPA, but is not authorized to modify the Workplan.

XVI. OTHER APPLICABLE LAWS

54. Respondent shall comply with all laws that are applicable when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, where such action is selected and carried out in compliance with Section 121 of CERCLA.

XVII. RECORD PRESERVATION

55. All records and documents in EPA's and Respondent's possession that relate in any way to the Site shall be preserved during the conduct of this Consent Order and for a minimum of 10 years after commencement of construction of any remedial action. The Respondent shall acquire and retain copies of all documents that relate to the Site and are in the possession of its employees, agents, accountants, contractors, or attorneys. After this 10 year period, the Respondent shall notify EPA at least 90 days before the documents are scheduled to be destroyed. If EPA requests that the documents be saved, the Respondent shall, at no cost to EPA, give EPA the documents or copies of the documents.

XVIII. DISPUTE RESOLUTION

56. Any disputes concerning activities or deliverables required under this Consent Order, excluding the baseline risk assessment, for which dispute resolution has been expressly provided for, shall be resolved as follows: If the Respondent objects to any EPA notice of disapproval or requirement made pursuant to this Consent Order, Respondent shall notify EPA's Project Coordinator in writing of its objections within 14 days of receipt of the disapproval notice or requirement. Respondent's written objections shall define the dispute, state the basis of Respondent's objections, and be sent certified mail, return receipt requested. EPA and the Respondent then have an additional 14 days to reach agreement. If an agreement is not reached within 14 days, Respondent may request a determination by the Director. The Director's determination is EPA's final decision. Respondent shall proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether Respondent agrees with the decision. If the Respondent does not agree to perform or does not actually perform the work in accordance with EPA's final decision, EPA reserves the right in its sole discretion to conduct the work itself, to seek reimbursement from the Respondent, to seek enforcement of the decision, to seek stipulated penalties, and/or to seek any other appropriate relief.

57. Respondent is not relieved of its obligations to perform and conduct activities and submit deliverables on the schedule set forth in the Workplan, while a matter is pending in dispute resolution. The invocation of dispute resolution does not stay stipulated penalties under this Consent Order.

XIX. DELAY IN PERFORMANCE/STIPULATED PENALTIES

58. For each day that the Respondent fails to complete a deliverable in a timely manner or fails to produce a deliverable of acceptable quality, or otherwise fails to perform in accordance with the requirements of this Consent Order, Respondent shall be liable for stipulated penalties. EPA may, in its sole discretion, impose a lesser penalty than those set forth below for minor violations. Any reduction in the stipulated penalty imposed shall be solely at EPA's discretion and shall not be subject to dispute resolution. Penalties begin to accrue on the day that performance is due or a violation occurs, and extend through the period of correction. Where a revised submission by Respondent is required, stipulated penalties shall continue to accrue until a satisfactory deliverable is produced. EPA will provide written notice for violations that are not based on timeliness; nevertheless, penalties shall accrue from the day a violation commences. Payment shall be due within 30 days of receipt of a demand letter from EPA.

59. Respondent shall pay interest on the unpaid balance, which shall begin to accrue at the end of the 30-day period, at the rate established by the Department of Treasury pursuant to 30 U.S.C.

Section 3717. Respondent shall further pay a handling charge of 1 percent, to be assessed at the end of each 31 day period, and a 6 percent per annum penalty charge, to be assessed if the penalty is not paid in full within 90 days after it is due.

60. Respondent shall make all payments by forwarding a certified or cashier's check made payable to "EPA Hazardous Substance Superfund." Each check shall reference the name and address of the party making payment, the site name, the EPA Region and SSID NUMBER 08-94, and the EPA docket number for this action, and shall be sent to:

Regular mail:

Mellon Bank
EPA Region VIII
Attn: Superfund Accounting
Post Office Box 360859
Pittsburgh, Pennsylvania 15251-6859

Express Mail:

Mellon Bank
3 Mellon Bank Center
ROOM#153-2713
Pittsburgh, Pennsylvania 15259

or other such address as EPA may designate in writing or by wire transfer to:

ABA=021030004
TREAS NYC/CTR/
BNF=/AC-68011008

Wire transfers must be sent to the Federal Reserve Bank in New York.

61. At the time of payment, each Settling Party shall send notice that such payment has been made to:

Enforcement Specialist
Richardson Flat Tailings Site
U.S. EPA Region 8
Suite 300 (8ENF-T)
999 18th Street
Denver, CO 80202-2466

62. For the following major deliverables, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first seven days of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day; and \$2,000 per day per violation for all violations lasting beyond 30 days.

- 1) An original and any revised sampling and analysis plan.
- 2) An original and any revised focused remedial investigation report.
- 3) An original and any revised treatability testing work plan, if required.
- 4) An original and any revised treatability study sampling and analysis plan, if required.
- 5) An original and any revised focused feasibility study report.

63. For the following interim deliverables, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first week of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day of noncompliance; and \$2,000 per day per violation for all violations lasting beyond 30 days.

- 1) Technical memorandum on modeling of site characteristics, if required.
- 2) Summary of RI data,
- 3) Identification of candidate technologies memorandum.
- 4) Treatability testing statement of work, if required.
- 5) Treatability study evaluation report, if required.
- 6) Memorandum on remedial action objectives.
- 7) Memoranda on development, screening, and detailed comparative analysis of alternatives.

64. For the monthly progress reports, stipulated penalties shall accrue in the amount of \$250 per day, per violation, for the first week of noncompliance; \$500 per day, per violation, for the 8th through 14th day of noncompliance; \$1,000 per day, per violation, for the 15th day through the 30th day; and \$2,000 per day, per violation, for all violations lasting beyond 30 days.

65. Respondent may dispute EPA's right to the stated amount of penalties by invoking the dispute resolution procedures under Section XVIII herein. Penalties shall accrue but need not be paid during the dispute resolution period. If Respondent does not prevail upon resolution, all penalties shall be due to EPA within 30 days of resolution of the dispute. If Respondent prevails upon resolution, no penalties shall be paid.

66. In the event that EPA provides for corrections to be reflected in the next deliverable and does not require re-submission of that deliverable, stipulated penalties for that interim deliverable shall cease to accrue on the date of such decision by EPA.

67. The stipulated penalties provisions do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of the Respondent's failure to comply with this Consent Order, including but not limited to conduct of all or part of the RI/FS by EPA. Payment of stipulated penalties does not alter Respondent's obligation to complete performance under this Consent Order.

68. If Respondent submits any major or interim deliverable to EPA early or on time, EPA will make good faith efforts to provide formal comments no later than one calendar month from the due date of the deliverable.

XX. FORCE MAJEURE

69. "Force majeure", for purposes of this Consent Order, is defined as any event arising from causes entirely beyond the control of the Respondent and of any entity controlled by Respondent, including its contractors and subcontractors, that delays the timely performance of any obligation under this Consent Order notwithstanding Respondent's best efforts to avoid the delay. The requirement that the Respondent exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent practicable. Examples of events that are not force majeure events include, but are not limited to, increased costs or expenses of any work to be performed under this Consent Order or the financial difficulty of Respondent to perform such work.

70. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Order, whether or not caused by a force majeure event, Respondent shall notify by telephone the Remedial Project Manager or, in his or her absence, the Director, within 48 hours of when the Respondent knew or should have known that the event might cause a delay. Within five business days thereafter, Respondent shall provide in writing the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Respondent shall exercise best efforts to avoid or minimize any delay and any effects of a

delay. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure.

71. If EPA agrees that the delay or anticipated delay is attributable to force majeure, the time for performance of the obligations under this Consent Order that are directly affected by the force majeure event shall be extended by agreement of the parties, pursuant to Section XXVII of this Consent Order, for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation.

72. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or does not agree with Respondent on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in Section XVIII of this Consent Order. In any such proceeding, to qualify for a force majeure defense, Respondent shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, that Respondent did exercise or is exercising due diligence by using its best efforts to avoid and mitigate the effects of the delay, and that Respondent complied with the requirements of paragraph 70.

73. Should Respondent carry the burden set forth in paragraph 72, the delay at issue shall be deemed not to be a violation of the affected obligation of this Consent Order.

XXI. REIMBURSEMENT OF PAST COSTS

74. To date, EPA has incurred costs in responding to the release of hazardous substances at and from the Site (Past Costs). EPA and Respondent are in the process reviewing these Past Costs and will use their best efforts to resolve outstanding issues. The parties intend to embody any agreement regarding payment of Past Costs in a separate administrative order and to include to the extent possible other potentially responsible parties for the Site.

XXII. REIMBURSEMENT OF RI/FS RESPONSE AND OVERSIGHT COSTS

75. Following the issuance of this Consent Order, EPA shall submit to the Respondent on a periodic basis an accounting of all response costs including oversight costs incurred by the U.S. Government with respect to this RI/FS. Response costs may include, but are not limited to, costs incurred by the U.S. Government in overseeing Respondent's implementation of the requirements of this Consent Order and activities performed by the government as part of the RI/FS and community relations, including any costs incurred while

obtaining access. Costs shall include all direct and indirect costs, including, but not limited to, time and travel costs of EPA personnel and associated indirect costs, contractor costs, cooperative agreement costs, compliance monitoring, including the collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that may arise as a result of this Consent Order, review and approval or disapproval of reports, costs of performing the focused baseline risk assessment, and costs of redoing any of Respondent's tasks. Any necessary summaries, including, but not limited to EPA's SCORE\$ Report or such other summary as certified by EPA, shall serve as basis for payment demands.

76. Respondent shall, within 60 days of receipt of each accounting, remit a certified or cashier's check for the amount of all uncontested costs. Interest shall accrue from the later of: the date payment of a specified amount is demanded in writing; or the date of the expenditure. The interest rate is the rate of interest on investments for the Hazardous Substances Superfund in Section 107(a) of CERCLA. Respondent reserves and retains the right to pursue claims against other "persons" as defined in Section 101(21) of CERCLA for contribution or indemnity for these costs.

77. Respondent shall make payment by forwarding a certified or cashier's check made payable to "EPA Hazardous Substance Superfund." Each check shall reference the name and address of the party making payment, the site name, the EPA Region and SSID NUMBER 08-94, and the EPA docket number for this action, and shall be sent to:

Regular mail:

Mellon Bank
EPA Region VIII
Attn: Superfund Accounting
Post Office Box 360859
Pittsburgh, Pennsylvania 15251-6859

Express Mail:

Mellon Bank
3 Mellon Bank Center
ROOM#153-2713
Pittsburgh, Pennsylvania 15259

or other such address as EPA may designate in writing or by wire transfer to:

ABA=021030004
TREAS NYC/CTR/
BNF=/AC-68011008

Wire transfers must be sent to the Federal Reserve Bank in New York.

78. At the time of payment, Respondent shall send notice that such payment has been made to:

Enforcement Specialist,
Richardson Flat Tailings Site
U.S. EPA Region 8
Suite 300 (8ENF-T)
999 18th Street
Denver, CO 80202-2466

79. Copies of the transmittal letter and check should be sent simultaneously to the EPA Project Coordinator.

80. If Respondent disputes any costs due to accounting errors, the inclusion of costs outside the scope of this Consent Order, or that such costs are inconsistent with the NCP, Respondent shall identify any contested costs and the basis of its objection. All undisputed costs shall be remitted by Respondent in accordance with the schedule set forth above. Disputed costs shall be paid by Respondent into an escrow account while the dispute is pending. Respondent bears the burden of establishing an EPA accounting error, the inclusion of costs outside the scope of this Consent Order, or inconsistency with the NCP.

XXIII. RESERVATIONS OF RIGHTS AND REIMBURSEMENT OF OTHER COSTS

81. EPA reserves the right to bring an action against the Respondent under section 107 of CERCLA for recovery of all response costs including oversight costs, incurred by the United States at the Site that are not reimbursed by the Respondent, any costs incurred in the event that EPA performs the RI/FS or any part thereof, and any future costs incurred by the United States in connection with response activities conducted under CERCLA at this Site.

82. EPA reserves the right to bring an action against Respondent to enforce the RI/FS response and oversight cost reimbursement requirements of this Consent Order, to collect stipulated penalties assessed pursuant to Section XIX of this Consent Order, and to seek penalties pursuant to Section 109 of CERCLA, 42 U.S.C. Section 9609.

83. Except as expressly provided in this Consent Order, each party reserves all rights and defenses it may have. Respondent specifically reserves its rights and defenses regarding liability or responsibility in any proceedings regarding this Site other than proceedings to enforce this Consent Order. Nothing in this Consent Order shall affect EPA's removal authority or EPA's response or enforcement authorities including, but not limited to, the right to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages.

84. Following satisfaction of the requirements of this Consent Order, Respondent shall have resolved its liability to EPA for the work performed by Respondent pursuant to this Consent Order. Respondent is not released from liability, if any, for any response actions taken beyond the scope of this Consent Order regarding removals, other operable units, remedial design/remedial action of this Site, Past Costs, or activities arising pursuant to Section 121(c) of CERCLA.

XXIV. DISCLAIMER

85. By signing this Consent Order and taking actions under this Consent Order, the Respondent does not necessarily agree with EPA's Findings of Fact and Conclusions of Law. Furthermore, the participation of the Respondent in this Consent Order, as well as EPA's findings of Fact and Conclusions of Law set forth in this Consent Order, shall not be considered an admission of liability and is not admissible in evidence against the Respondent in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to it. Respondent retains its rights to assert claims against other potentially responsible parties at the Site. However, the Respondent agrees not to contest the validity or terms of this Consent Order, or the procedures underlying or relating to it in any action brought by the United States, including EPA, to enforce its terms.

XXV. OTHER CLAIMS

86. In entering into this Consent Order, Respondent waives any right to seek reimbursement under section 106(b) of CERCLA. Respondent also waives any right to present a claim under section 111 or 112 of CERCLA. This Consent Order does not constitute any decision on preauthorization of funds under section 111(a)(2) of CERCLA. Respondent further waives all other statutory and common law claims against EPA, including, but not limited to, contribution and counterclaims, relating to or arising out of conduct of the RI/FS.

87. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership, subsidiary or corporation not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site. Nothing contained in this Consent Order shall affect any right, claim, interest or cause of action of any party hereto with respect to third parties.

88. Respondent shall bear its own costs and attorneys fees.

89. The parties agree that the Respondent is entitled, upon EPA approval of Respondent's certification that all requirements of this Consent have been satisfied, to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2) for matters addressed in this Consent Order. The "matters addressed" in this Consent Order include the performance of a RI/FS for the tailings impoundment at this Site. The "matters addressed" in this Consent Order do not include payment of Past Costs, the performance of any remedial action or cleanup action determined to be necessary at the tailings impoundment, or payment of any response costs resulting therefrom.

XXVI. INSURANCE AND INDEMNIFICATION

90. (a) Prior to commencement of any work under this Consent Order, Respondent shall secure or ensure that its contractors or subcontractors secure, and shall maintain in force for the duration of this Consent Order, Comprehensive General Liability ("CGL") and automobile insurance, with limits of \$ 1.0 million dollars, combined single limit, naming as insured the United States. The CGL insurance shall include Contractual Liability Insurance in the amount of \$1.0 million per occurrence, and Umbrella Liability Insurance in the amount of \$2 million per occurrence.

(b) Respondent shall also secure or ensure that its contractors or subcontractors also secure, and maintain in force for the duration of this Consent Order the following:

- i. Professional Errors and Omissions Insurance in the amount of \$1,000,000.00 per occurrence; and
- ii. Pollution Liability Insurance in the amount of \$1,000,000.00 per occurrence, covering as appropriate both general liability and professional liability arising from pollution conditions.

(c) For the duration of this Order, Respondent shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's compensation insurance for all persons performing work on behalf of the Respondent, in furtherance of this Consent Order.

(d) If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then with respect to that contractor or subcontractor Respondent need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

(e) Prior to commencement of any work under this Consent Order, and annually thereafter on the anniversary of the effective date of this Consent Order, Respondent shall provide to EPA certificates of such insurance and a copy of each insurance policy.

91. At least 7 days prior to commencing any work under this Consent Order, Respondent shall certify to EPA that the required insurance has been obtained by that contractor.

92. The Respondent agrees to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims or causes of action arising from or on account of acts or omissions of Respondent, its employees, agents, servants, receivers, successors, or assignees, or any persons including, but not limited to, firms, corporations, subsidiaries and contractors, in carrying out activities under this Consent Order. The United States Government or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Respondent in carrying out activities under this Consent Order.

XXVII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

93. The effective date of this Consent Order shall be the date it is signed by EPA.

94. This Consent Order may be amended by mutual agreement of EPA and Respondent. Amendments shall be in writing. Project Coordinators do not have the authority to sign amendments to the Consent Order.

95. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by the Respondent will be construed as relieving the Respondent of its obligation to obtain such formal approval as may be required by this Consent Order. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules and attachments required by this Consent Order are, upon approval by EPA, incorporated into this Consent Order.

XXVIII. TERMINATION AND SATISFACTION

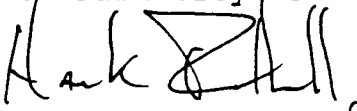
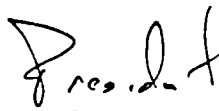
96. This Consent Order shall terminate when the Respondent demonstrates in writing and certifies to the satisfaction of EPA that all activities required under this Consent Order, including any additional work, payment of past costs, response and oversight costs, and any stipulated penalties demanded by EPA, have been performed and EPA has approved the certification. This notice shall not, however, terminate Respondent's obligation to comply with Sections XVII, XXIII, and XXV of this Consent Order.

97. The certification referred to in the preceding paragraph shall be signed by a responsible official representing the Respondent. The representative shall make the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate, and complete." For purposes of this Consent Order, a responsible official is a corporate official who is in charge of a principal business function.

[SEE NEXT PAGE FOR SIGNATURES]

AGREED TO:

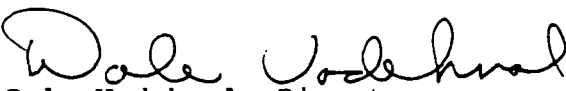
United Park City Mines

BY:  
(Respondent) Title

DATE: 9/27/00

AGREED TO AND ORDERED:

U.S. Environmental Protection Agency Region 8

BY: 
Dale Vodehnal, Director
Superfund Remedial Response Program
Office of Ecosystem Protection and Remediation

DATE: 9/28/2000

**STATEMENT OF WORK
FOR
FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY
RICHARDSON FLAT TAILINGS SITE
SUMMIT COUNTY, UTAH
UT980952840**

INTRODUCTION

United Park City Mines Company ("United Park") submits this Statement of Work ("SOW") to perform a focused remedial investigation/feasibility study at the Richardson Flat Tailings Site, located in Summit County, Utah (the "Site"). In support of this SOW, United Park has prepared a Focused Remedial Investigation/Feasibility Study Work Plan (the "Focused RI/FS Work Plan"), which is attached hereto as Exhibit A and incorporated by reference to this SOW. At the request of United States Environmental Protection Agency ("EPA") Region 8, this SOW has been prepared based on and in conformance with EPA's July 2, 1991 Model Statement of Work for PRP-Conducted Remedial Investigations and Feasibility Studies (EPA's "Model SOW"). This work is being conducted in full cooperation with both the EPA and the Utah Department of Environmental Quality (UDEQ).

As described in Section 1.0 of the Focused RI/FS Work Plan, United Park is the current owner of a large parcel of property (the "Property"), comprising approximately 700 acres, located in Summit County, Utah. Figure 1.0 of the Focused RI/FS Work Plan shows the general geographic location of the Property. A historic mine tailings impoundment, consisting of a large, geometrically closed basin formed by an earth embankment and a series of perimeter containment dikes, covers approximately 160 acres of the Property and is sometimes referred to as "Richardson Flat" or simply the "Site." The tailings impoundment resulted from decades of mining and milling silver-laden ore in the area around Park City known as the Park City Mining District. The Site is depicted in Figure 2.0 of the Focused RI/FS Work Plan.

The Site has remained unused since mining and milling operations ceased in 1982. Over the past fifteen years, EPA Region 8, the Utah Department of Environmental Quality ("UDEQ") and United Park have been investigating the Site in order to characterize the Site and determine potential adverse impacts to human health and the environment associated with the Site. At the same time, United Park has been implementing a series of remedial measures at the Site intended to mitigate any potential adverse impacts on human health and the environment.

The objectives of this focused remedial investigation/feasibility study ("RI/FS") are to further investigate the nature and extent of contamination at the Site, to supplement the

investigation efforts performed at the Site to date, to collect sufficient data to support EPA's risk assessment and analysis, and, if necessary, develop and evaluate potential additional remedial alternatives to support final Site closure. The focused RI and FS are interactive and may be conducted concurrently so that the additional data collected in the focused RI influences the development of additional remedial alternatives in the FS, which in turn affects the data needs and the scope of treatability studies, if any are required.

United Park will conduct this focused RI/FS (except for the focused risk assessment component and any community involvement activities which will be conducted by the EPA and UDEQ) and will produce a draft RI/FS report that are in accordance with this SOW, and to the extent appropriate for the Site, the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988), and any other guidance that EPA uses in conducting a RI/FS (a list of the primary guidance is attached), as well as any additional requirements in the administrative order. United Park will furnish all necessary personnel, materials, and services needed, or incidental to, performing the focused RI/FS, except as otherwise specified in the administrative order.

At the completion of the focused RI/FS, EPA in consultation with UDEQ will be responsible for the selection of a site remedy and will document this selection in a Record of Decision (ROD). The remedial action alternative selected by EPA in consultation with UDEQ will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element, as appropriate for the Site. The final focused RI/FS report, as adopted by EPA in consultation with UDEQ and EPA's focused risk assessment will, with the administrative record, form the basis for the selection of the Site's final closure remedy and will provide the information necessary to support the development of the ROD.

As specified in CERCLA Section 104(a)(1), as amended by SARA, EPA will provide oversight of United Park's activities throughout the focused RI/FS. United Park will support EPA's initiation and conduct of activities related to the implementation of oversight activities.

TASK 1 - SCOPING

As described in Section 3 of the Focused RI/FS Work Plan, since the 1970s, numerous environmental investigations have been conducted relating to the Site. The reports and data from these prior investigations are very useful in determining the scope of additional investigative activities needed to bring final closure to the Site. From 1985 to 1988 and from 1992 to 1993, the EPA conducted and reported on investigations at the Site. Based on previous and current environmental studies and existing Site conditions, United Park has developed a conceptual model of the Site. As described in Section 4 of the Focused RI/FS Work Plan, the Preliminary Site Model will be used to scope and evaluate the need for supplemental remedial investigation work (as described in Section 5 of the Focused RI/FS Work Plan) to assist in the development of further remedial measures to support final Site closure. United Park will develop a Preliminary Site Model in coordination with EPA and UDEQ.

As described in the Focused RI/FS Work Plan, the Site is similar in construction and characteristics to other tailings impoundment's found throughout Utah and other Rocky Mountain States. The tailings on this Site are non-reactive and were derived from ore bodies contained in carbonate host rocks. Soil, surface water, and groundwater media will be addressed in both the additional investigative work and in the evaluation of further remedial measures as part of the RI/FS work to be performed pursuant to this SOW. Recent and past investigations show that the tailings are underlain by native high-clay-content soils, sitting within an enclosure constituting a large, geometrically closed impoundment, covered with a vegetated soil cover. There is a surface water diversion ditch system that surrounds the impounded tailings. Because the characteristics of the Site are similar to other tailings impoundment's in the Rocky Mountain region, much is known about such sites generally and about the effectiveness of such an impoundment's construction. Such information will also be very useful in determining the scope of additional investigative activities needed to bring final closure to the Site.

When scoping the specific aspects of a project, United Park will meet with EPA and UDEQ to discuss all project planning decisions and special concerns associated with the Site. As a function of the project planning process, United Park will perform the activities described below to the extent they have not already been performed.

a. Site Background and Site Visit

The respondent will gather and analyze the existing site background information and will conduct a site visit to assist in planning the scope of the RI/FS. The respondent will also

collect and analyze existing data and document the need for additional data. Before planning RI/FS activities, all existing site data will be thoroughly compiled and reviewed by the respondent. Specifically, this will include presently available data relating to the varieties and quantities of hazardous substances at the site, and past disposal practices. This will also include results from any previous sampling events that may have been conducted. This information will be utilized in determining additional data needed to characterize the site, better define potential applicable or relevant and appropriate requirements (ARARs), and develop a range of preliminarily identified remedial alternatives.

The respondent will also conduct a site visit during the project scoping phase to assist in developing a conceptual understanding of sources and areas of contamination, as well as potential exposure pathways and receptors at the site. This information will be utilized to better scope the project and to determine the extent of additional data necessary to characterize the site, better define potential ARARs, and narrow the range of preliminarily identified remedial alternatives.

Consistent with EPA's Model SOW, United Park has gathered and analyzed the existing Site background information and has conducted numerous Site visits to assist in scoping its focused RI/FS. The results of these efforts are reported in Sections 2, 3 and 4 of the Focused RI/FS Work Plan. This information was utilized in determining additional data needed to characterize the Site, and will assist to better define potential ARARs and develop a range of preliminarily identified additional remedial alternatives. The results of these efforts are reported in Sections 5 and 7 of the Focused RI/FS Work Plan. In addition, United Park has conducted site visits with personnel from the EPA and UDEQ. The Site work completed from 1985 to 1993 by EPA and UDEQ has provided a great deal of background information on the Site. There is a good deal of institutional knowledge about the Site.

b. Project Planning

Once the respondent has collected and analyzed existing data and conducted a site visit, the specific project scope will be planned. Project planning activities include those tasks described below, as well as identifying data needs, developing a work plan, designing a data collection program, and identifying health and safety protocols.

As described in the Focused RI/FS Work Plan, United Park has been implementing a series of remedial measures at the Site intended to mitigate any potential adverse impacts on human health and the environment. As the result of previous Site operations and United Park's remedial efforts, United Park believes that key elements are already in place to support final Site closure. These closure elements include:

- Installation of multiple monitoring wells to monitor groundwater conditions in and around the Site
- Construction of a large, earth embankment and a series of containment dikes to contain the tailings
- Construction of a diversion ditch system surrounding the impoundment to collect and redirect surface and ground water
- Placement of a vegetated clay soil cover to isolate the tailings, to prevent tailings from becoming wind-borne, and to minimize the infiltration of water to the tailings
- Installation of a security fence to limit Site access

Based on the data collected from and the remedial measures that have already been implemented at the Site to date, and in consideration of remedial measures implemented at similar tailings impoundment sites throughout Utah and other Rocky Mountain States, United Park believes that final Site closure can be achieved without the implementation of further remedial measures.

However, United Park recognizes that EPA has concerns about Site conditions that the agency believes must be addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, United Park agrees to further investigate the nature and extent of contamination at the Site to supplement the investigation efforts performed at the Site to date and confirm that the measures implemented at the Site to date are adequate to support final closure of the Site. If necessary, based on the findings of these efforts, United Park will also develop and evaluate potential additional remedial alternatives to support a final closure of the Site that is protective of human health and the environment, and consistent with contemplated future land use of the Site. United Park proposes to use the data derived from the Focused RI/FS (together with a focused risk assessment to be performed by EPA) to determine whether any further remedial measures are needed to support final Site closure. If and to the extent further remedial measures are required, United Park believes that any appropriate final remedy for the Site should be consistent with and incorporate, to the maximum extent practicable, all elements of the existing Site closure.

If remedial actions involving treatment have been identified by the respondent or EPA, treatability studies will be required except where the respondent can demonstrate to EPA's satisfaction that they are not needed. Where treatability studies are needed, initial treatability testing activities (such as research and study design) will be planned to occur concurrently with site characterization activities.

As previously described in this SOW and in the Focused RI/FS Work Plan, United Park will develop and evaluate potential additional remedial alternatives to support a final closure of the Site that is protective of human health and the environment, and consistent with contemplated future land use of the Site. As described in Section 7.0 of the Focused RI/FS Work Plan, a preliminary list of such additional remedial measures may include:

- Improving and maintaining the main embankment stability and integrity
- Improving and maintaining the soil cover
- Improving and maintaining the surface drainage
- Improving and maintaining the diversion ditches
- Excavating tailings located outside of the impoundment, placing the same within the impoundment, and placement of additional cover
- Establishing appropriate institutional controls to prevent unacceptable exposure risk

At this time, such preliminary additional remedial measures would not involve treatment of hazardous wastes or substances. Consequently, it is unlikely that treatability studies would need to be performed as part of the evaluation and selection of final additional remedial measures to support final closure of the Site. However, if new information comes to light as a result of United Park's focused RI/FS efforts, or if circumstances change, then United Park will evaluate the need for and conduct, as necessary, treatability tests in accordance with the NCP and as approved by EPA.

The respondent will conduct a preliminary identification of potential state and federal ARARs (chemical-specific, location-specific and action-specific) to assist in the refinement of remedial action objectives, and the initial identification of further remedial alternatives and ARARs associated with particular actions. ARARs identification will continue as site conditions, contaminants, and remedial action alternatives are better defined.

As described in Sections 6.0 and 7.0 of the Focused RI/FS Work Plan, evaluation of any further remedial alternatives to support the final Site closure will include an assessment of the feasibility and overall effectiveness of such measures based on the requirements of CERCLA and the NCP. This will include a focused risk assessment (to be performed by EPA) that is based on possible future land use scenarios. At the outset of the focused feasibility study, ARARs for the final Site closure will be preliminarily identified. Since the range of possible future land uses will be set out early in the process, the proposed ARARs will be focused on a narrow range of remedial measures to support final Site closure. ARARs identification will continue as Site conditions, contaminants, and remedial action alternatives are better defined.

- c. **Scoping Deliverables -- Focused RI/FS Work Plan, Sampling and Analysis Plan, and Health and Safety Plan.**

According to EPA's Model SOW, at the conclusion of the project planning phase, the respondent will submit a RI/FS work plan, a sampling and analysis plan ("SAP"), and a site health and safety plan ("HASP"). The SAP provides a mechanism for planning field activities and consists of a field sampling plan (FSP) and a quality assurance project plan (QAPP). The FSP will define the sampling and data-gathering methods that will be used on the project. The QAPP will describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired data quality objectives ("DQOs"). The HASP will be prepared in conformance with the respondent's health and safety program, and in compliance with OSHA regulations and protocols. The RI/FS work plan and SAP must be reviewed and approved by EPA prior to the initiation of field activities. United Park and EPA will coordinate comments so that the SAP will include sampling and field procedures to be followed by EPA oversight contractors. This portion of the SAP will include procedures for EPA oversight sampling for both scheduled and unscheduled sampling events.

The Focused RI/FS Work Plan is attached to this SOW and will be deemed approved upon EPA's signature of the AOC. The Work Plan provides additional detail to the tasks set forth in this SOW where available. The Sampling and Analysis Plan, and Health and Safety Plan will be submitted to the agencies within 60 days of EPA's signing of the AOC.

The SAP will most likely be delivered initially addressing only certain specific aspects of the RI/FS. If additional data gathering needs for specific aspects of the RI/FS are identified, the SAP will be supplemented with the additional data gathering criteria.

As previously indicated in this SOW, United Park has prepared a Focused RI/FS Work Plan, attached hereto as Exhibit A. Within sixty (60) days of the effective date of the AOC, United Park will also prepare a SAP (which includes a FSP and QAPP) and HASP prior to conducting any supplemental fieldwork at the Site. Consistent with EPA's Model SOW, the Focused RI/FS Work Plan and SAP will be reviewed and approved by EPA prior to the initiation of field activities.

TASK 2 - COMMUNITY RELATIONS

The development and implementation of community relations activities are the responsibility of EPA and UDEQ. Although implementation of the community relations plan is the responsibility of EPA and UDEQ, United Park may assist by providing information regarding

the Site's history, participating in public meetings, or by assisting in the preparation of fact sheets for distribution to the general public. United Park may establish a community information repository, at or near the Site, to house one copy of the administrative record. The extent of United Park's involvement in community relations activities is left to the discretion of the agencies. United Park's community relations responsibilities, if any, will be specified in the community relations plan. All community relations activities conducted by United Park will be subject to oversight by EPA.

TASK 3 - SITE CHARACTERIZATION

a. Field Investigation

During this phase, the Focused RI/FS Work Plan, SAP, and HASP are implemented. As set forth in Section 5 of the Focused RI/FS Work Plan, the supplemental field investigation will include the gathering of additional data to further define site physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. United Park, in accordance with the Focused RI/FS Work Plan and SAP will perform these activities. United Park will initiate field support activities following approval of the Focused RI/FS Work Plan and SAP. Field support activities may include obtaining access to the site, scheduling, and procuring equipment, office space, laboratory services, and/or contractors, as appropriate. United Park will notify EPA and UDEQ at least two weeks prior to initiating field support activities, so that EPA may adequately schedule oversight tasks. United Park will also notify EPA and UDEQ in writing upon completion of field support activities. United Park shall complete initial fieldwork within seventeen (17) months of EPA approval or modification of the SAP.

b. Data Analysis

In accordance with the Focused RI/FS Work Plan, United Park will analyze and evaluate the existing and any newly-collected data to describe: (1) site physical and biological characteristics, (2) contaminant source characteristics, (3) nature and extent of contamination and (4) contaminant fate and transport. The RI data will be presented in a format (i.e., computer disc or equivalent) to facilitate EPA's preparation of the focused risk assessment. United Park shall agree to discuss and then collect any data gaps identified by the EPA that need to be filled in order to complete the focused risk assessment. (See "Guidance for Data Usability in Risk Assessment - OSWER Directive # 9285.7-05 - October 1990.) Additionally, the data will be used in combination with the focused risk assessment to facilitate the implementation of any additional remedial measures that are deemed necessary for the Site through the Feasibility Study that follows.

c. Data Management Procedures

Information gathered during the supplemental Site characterization work will be consistently documented and adequately recorded by United Park in well-maintained field logs and laboratory reports. Field logs will be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports will document sample custody, analytical responsibility, analytical results, nonconformity events, corrective measures and/or data deficiencies, and adherence to prescribed protocols. United Park will provide EPA with analytical data within forty-five (45) days of each sampling activity, in an electronic format showing the location, medium, and results. United Park will notify EPA when all pertinent data to be used in the Remedial Investigation report has been provided to EPA.

d. Remedial Investigation Report Deliverable

After completing the supplemental field sampling and analysis, a draft RI Report will be prepared and submitted by United Park to EPA and UDEQ for review and approval. This report will be submitted to EPA within seventy-five (75) days of United Park's notification to EPA that all data has been provided. The draft RI report will contain a Site characterization summary that will provide EPA with a preliminary reference for developing the focused risk assessment. The Site characterization summary will also be used by United Park to assist in confirming that the measures implemented at the Site to date are adequate to support final closure of the Site, and in evaluating the development and screening of further remedial alternatives and the refinement and identification of ARARs. The draft RI report shall summarize and evaluate results of past and recent field activities to characterize the Site, sources of contamination and the fate and transport of contaminants. United Park will refer to the RI/FS Guidance for an outline of the report format and contents. Following receipt of comments by EPA and, United Park will prepare and submit a final RI report within thirty (30) days, which satisfactorily addresses EPA and UDEQ comments.

TASK 4 - TREATABILITY STUDIES

As described earlier in this SOW and in Section 7.0 of the Work Plan, United Park will develop, evaluate and recommend, as necessary, potential additional remedial alternatives to support a final closure of the Site that will be protective of human health and the environment, and consistent with the contemplated future land use of the Site. At this time, such additional remedial measures would not involve treatment of hazardous wastes or substances. Consequently, it is unlikely that treatability studies would need to be performed as part of the evaluation and selection of final additional remedial measures to support final closure of the Site. However, if new information comes to light as a result of United Park's focused RI/FS efforts, or

if circumstances change, then United Park will evaluate the need for and conduct, as necessary, treatability tests in accordance with the NCP and EPA's Model SOW and as approved by EPA. If such tests are necessary, the following deliverables will apply:

1. Identification of Candidate Technologies Memorandum.
2. *Treatability Testing Statement of Work.*
3. Treatability Testing Work Plan.
4. Treatability Study Sampling and Analysis Plan.
5. Treatability Study Site Health and Safety Plan.
6. Treatability Study Evaluation Report.

Because it is unclear whether or not treatability studies are necessary it is not appropriate to include timeframes at this time. These will be addressed when it is known whether or not treatability studies are necessary.

TASK 5 - DEVELOPMENT, SCREENING, AND ANALYSIS OF FURTHER REMEDIAL ALTERNATIVES

As described in Section 7.0 of the Focused RI/FS Work Plan and previously in Task 1.b of this SOW, United Park believes that final Site closure can be achieved without the implementation of further remedial measures. However, United Park recognizes that EPA has concerns about Site conditions that the agency believes must be addressed through additional Site characterization and possibly through the implementation of additional remedial measures. Therefore, United Park agrees to further investigate the nature and extent of contamination at the Site to supplement the investigation efforts performed at the Site to date and confirm that the measures implemented at the Site to date are adequate to support final closure. United Park notes that it is currently considering long-term, non-residential land uses at the Site and the Property. While the Property outside the impoundment is already suitable for development, the Property is not currently being used for any productive purpose. United Park is considering developing the area outside of the actual impoundment for non-residential, recreational uses. United Park is also considering non-residential uses, consistent with the soil cover and any appropriate institutional controls, for the southern area of the tailings impoundment area itself.

Based on the findings of these additional investigation and evaluation efforts, United Park proposes to use the data derived from the Focused RI/FS (together with a focused risk assessment to be performed by EPA) to facilitate the determination of whether any further remedial measures are needed to support final Site closure. If necessary, as part of the focused feasibility study, United Park will develop appropriate remedial action objectives, and develop and evaluate potential additional remedial alternatives, to support a final closure of the Site that is protective of human health and the environment, taking into consideration the low-toxicity volume of the on-Site tailings materials, as well as remedial measures implemented at similar tailings impoundment sites throughout Utah and the Rocky Mountain States. If and to the extent further remedial measures are required, United Park believes that any appropriate final remedy for the Site should be consistent with and incorporate, to the maximum extent practicable, all elements of the existing Site closure, and with contemplated future land use of the Site.

United Park will develop and evaluate a range of appropriate further remedial alternatives to support final Site closure, concurrent with the RI Site characterization task. Based on EPA's focused risk assessment, United Park will review, and if necessary and appropriate for the Site: 1) modify the site-specific remedial action objectives; 2) develop general response actions for each medium of interest to satisfy the remedial action objectives; 3) identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives; 4) identify, screen and document technologies, if any, applicable to each general response action to eliminate those that cannot be implemented at the site; and 5) assemble and document further alternative remedial measures. Such remedial measures may include, for example, removal, treatment and containment of the on-Site tailings materials, as well as a "no-action" alternative. Within thirty (30) days of receipt of EPA's baseline risk assessment, United Park will submit a memorandum detailing Remedial Action Objectives.

United Park will conduct a detailed analysis of additional remedial alternatives to support final closure of the Site, which will consist of an analysis against a set of nine evaluation criteria to ensure that the selected additional remedial measures will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARS; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for treatment as a principal element (if appropriate). The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARS; (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state (or support agency) acceptance; and (9) community acceptance. (Note: criteria 8 and 9 may not be complete until comments on

the proposed plan are received. State and community concerns expressed during the RI/FS process will be considered as they are submitted or otherwise expressed.)

Within ninety (90) days of EPA's approval of the Memorandum detailing the development, screening, and analysis of alternatives, United Park will submit a draft FS report to EPA for review and approval. Once United Park has addressed EPA's comments, the final FS report may be bound with the final RI report. This report, as ultimately adopted or amended by EPA, provides a basis for remedy selection by EPA and documents the development and analysis of further remedial alternatives to support final closure of the Site. United Park will refer to the RI/FS Guidance for an outline of the report format and the required report content, as appropriate for the Site.

REFERENCES FOR CITATION

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

The (revised) National Contingency Plan

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, " U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

"Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9835.3

"A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

"EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R.

"Data Quality Objectives for Remedial Response Activities, " U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.

"Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.

"Interim Guidelines and Specifications for Quality Assurance Project Plans," U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.

"Users Guide to the EPA Contract Laboratory," U.S. EPA, Sample Management Office, August 1982.

Interim Guidance with Applicable or Relevant and Appropriate Requirements,' U.S. EPA, OFFICE of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.

"CERCLA Compliance with Other Laws Manual," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (draft), OSWER Directive No. 9234.1-01 and -02.

"Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," U.S. EPA, Office of Emergency and Remedial Response, (draft), OSWER Directive No. 9283.1-2.

"Draft Guidance on Superfund Decision Documents," U.S. EPA, Office of Emergency and Remedial Response, March 1988, OSWER Directive No. 9355.-02

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual (Part A), EPA/540/1-89/002

"Risk Assessment Guidance for Superfund - Volume II Environmental Evaluation Manual," March 1989, EPA/540/1-89/ 001

"Guidance for Data Usability in Risk Assessment," October, 1990, EPA/540/G-90/008

"Performance of Risk Assessments in Remedial Investigation/Feasibility Studies (RI/FSs) Conducted by Potentially Responsible Parties (PRPs)," August 28, 1990, OSWER Directive No.9835.15.

"Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions," April 22, 1991, OSWER Directive No. 9355.0-30.

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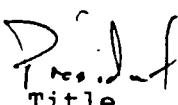
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AGREED TO:

United Park City Mines

BY:


(Respondent), 
Title

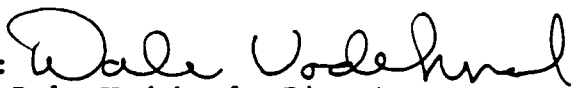
DATE:

9/27/00

AGREED TO AND ORDERED:

U.S. Environmental Protection Agency Region 8

BY:



Dale Vodehnal, Director
Superfund Remedial Response Program
Office of Ecosystem Protection and Remediation

DATE:

9/28/2000